

SECTOR 11

WEST COAST OF AFRICA—PRESQU'ILE DU CAP VERT TO THE BANANA ISLANDS

Plan.—This sector describes the W coast of Africa from Cap Vert to the Banana Islands. It includes the important ports of Dakar, Bathurst, Conakry, and Freetown. The descriptive sequence is from the NW to SE.

General Remarks

11.1 Oil exploration installations, facilities, and related vessels may be encountered offshore in the waters described by this sector.

The security of vessels navigating in the waters described by this sector has been reported as a serious problem. The authorities have received numerous reports of vessels having been attacked by gangs of thieves. Generally, these attacks have taken place at the outer anchorages, but some have been while vessels were at sea or alongside. Open lights used by the thieves also pose a fire hazard. Mariners are advised to keep a constant watch and not permit any unauthorized craft to come alongside.

During the winter months, a cold wind blows from the Sahara Desert over sections of the coast described within this sector. This wind, known as the harmattan, carries dust and sand which at times reduces visibility.

Presqu'ile du Cap Vert

11.2 Cap Vert (Cape Verde) (14°43'N., 17°30'W.) is the name generally given to the end of Presqu'ile du Cap Vert, which forms the W side of Baie de Goree. Cap Vert is actually a point on the SW side of the peninsula, 2 miles SE of its W extremity. The peninsula consists of moderately-high land which rises gradually to several hillocks near Cap Vert.

Les Mamelles, the two highest hillocks, rise to heights of 95m and 105m and appear as islets from a distance. They are quite distinct and are covered with stunted vegetation during the rainy season, when they form quite a contrast against the barren coast to the N.

Cap Vert Light is shown from a tower with a dwelling, 16m high, standing on the W and highest hillock. A signal station stands close to the light; an aeronautical radiobeacon is situated 1.5 miles ESE of it.

Pointe des Almadies (14°45'N., 17°32'W.), the W extremity of Presqu'ile du Cap Vert, is formed by basaltic formation. This point is 15m high; an old lighthouse stands on it.

Chaussee des Almadies, a reef with rocks up to 3m high lying on it, extend about 1 mile W of the point. A light is shown from a tower, 15m high, standing on the outer rock of this reef. The sea breaks up to about 0.3 mile W of the light and then the depths increase rapidly.

Butte de Camberene, described in paragraph 10.24, stands 7 miles E of Pointe des Almadies and forms the E extremity of the peninsula.

Ile de Yof, 10m high, lies 3.2 miles ENE of Pointe des Almadies. This islet stands on the seaward end of a reef which ex-

tends 0.3 mile NE from the coast. Ile de Ngor, 15m high, lies 1 mile NE of Pointe des Almadies and is joined to the coast, on its SE side, by a ledge of rocks which forms a basin open to the W.

Hotel Ngor, a large building, stands on the mainland coast SE of Ile de Ngor and is very conspicuous. An airport is situated close SE of this hotel and several buildings standing in its vicinity are conspicuous from seaward.

The coast between Cap Vert and Cap Manuel, 6 miles SE, consists of reddish cliffs with small sandy beaches in places.

11.3 Cap Manuel (14°39'N., 17°26'W.), 40m high, is dark and descends steeply to the sea. A light is shown from a tower on a dwelling, 14m high, standing on the cape. An auxiliary light is shown from a structure, 12m high, joined to the S side of the main light. This light should not be confused with the light on Cap Vert.

Banc Manuel, with a least depth of 7m, extends up to 0.5 mile WSW of this cape. Banc du Seminole, with a least depth of 20m, lies about 3.5 miles SW of the cape.

Ile de la Madeleine (14°39'N., 17°28'W.), 30m high, lies 2.3 miles W of Cap Manuel and is surrounded by rocks. Ile Lougne, 27m high, lies close SE of Ile de la Madeleine. A reef, with depths of less than 6m, extends from these islands to the peninsula. In this vicinity, vessels should remain in depths of at least 20m.

Conspicuous landmarks between Cap Vert and Cap Manuel include several radio masts standing 3.5 miles E of Cap Vert Light; a water tank standing 1.5 miles S of the radio masts; a cemetery situated 2 miles NW of Cap Manuel; and the main buildings of the city of Dakar which are conspicuous from offshore.

It is reported that good anchorage during a fresh trade wind can be obtained, in a depth of 22m, gravel, about 0.4 mile NW of the W end of Ile de Ngor. Good anchorage can also be found, in a depth of 21m, gray sand, about 1.2 miles WNW of Cap Vert Light.

Caution.—South of Les Mamelles, vessels should anchor farther out as rollers form at a considerable distance offshore with a heavy W swell.

An unexploded ordnance dumping area, the limits of which are shown on the chart, lies centered 14 miles SW of Cap Manuel.

Due to the existence of submarine cables, an anchoring and fishing prohibited area, the limits of which are shown on the chart, extends up to 9 miles S and 18 miles W of Cap Manuel.

Dakar (14°41'N., 17°26'W.)

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11.4 The port of Dakar and Rade de Dakar lie on the W side of Baie de Goree. The city of Dakar is the capital of Senegal; the port is an important resupply terminal, especially for fuel and water. The harbor is formed by two breakwaters and is

large enough for maneuvering without tugs, when weather conditions are favorable, although tugs are available. The facilities of the port include an offshore tanker terminal.

Winds—Weather.—Fog may occur a few days per month, especially in January and February. It generally forms before sunrise and clears by the end of the morning.

In the rainy season, from June to November, swells from the S occur off the entrance and are felt in some parts of the harbor.

Squalls from the S sometimes render Rade de Dakar impracticable for boats.

Tides—Currents.—Tides rise 1.6m at springs and 1.3m at neaps.

The tidal currents in Rade de Dakar are only slightly perceptible. The tidal currents in the harbor are weak; they enter

on the N side of the entrance, flow in a counterclockwise direction, and leave near the S jetty head.

Depths—Limitations.—Generally, vessels up to 300m in length and 10m draft can enter at all stages of the tide. Vessels up to 12m draft may enter at HW, except possibly in the stormy season, between mid-August and mid-October. It is reported that a vessel of 330m in length has been handled in the harbor.

The entrance channel is about 200m wide and is dredged to a depth of 11m. Depths of 10 to 11m lie in the W part of the harbor and a channel, dredged to a depth of 11m, leads NW to Mole No. 4. The turning basin, lying E of Mole No. 4, is also dredged to a depth of 11m and is used by large ore carriers which load at Mole No. 5. The basin lying between Mole No. 5 and Mole No. 6 has a depth 11m.

Dakar—Pier Information			
Berth	Length	Depth alongside	Remarks
Mole 1			
Berths 15 to 17	460m	10.0m	Containers.
Berth 14	140m	10.0m	
Berths 11 to 13	410m	10.0m	
Mole 2			
Berths 24 and 25	320m	8.5m	General cargo.
Berth 23	100m	8.5m	General cargo.
Berths 21 and 22	320m	8.5m	General cargo.
Middle Basin-Berth 102	260m	8.5-10.0m	
Mole 3—West face of South Jetty			
Berths 31 to 33	370m	10.0m	General cargo. Free zone for cargo in transit to Mali.
East Basin-Berth 203	160m	8.5-10.0m	
Mole 4			
West face	260m	5.0m	
Berth 45	120m	7.0-10.0m	Petroleum.
Berths 41 to 44	470m	10.0m	
River face	80m	7.0m	
Mole 5			
Berth 51	170m	12.0m	Phosphate.
Berth 52	160m	8.0m	
River quay	90m	7.0m	
Container Terminal			
Berths 62 and 63	600m	9.0-11.6m	
East face	270m	4.0-5.0m	
Northwest Basin			
Berth 706	230m	4.0-10.0m	Phosphate.
Mole 8			
Berths 84 to 86	380m	10.0m	

Dakar—Pier Information			
Berth	Length	Depth alongside	Remarks
Berth 83	150m	10.0m	
Berths 81 and 82	320m	10.0m	
Oil Basin			
Berth 819	190m	4.0m	
Petroleum Wharf			
Berth 92N and 92 S	240m	11.0-12.0m	
Berth 91N and 91S	230m	12.0m	
River quay-Berth 910	150m	4.0m	
North Jetty—West face			
Berth 01	90m	10.0m	
Berth 02	90m	10.0m	
Mole 10—Fishing Pier			
Berths 106 and 107	360m	7.0m	
Berth 104	360m	10.0m	
Berth 101 to 103	550m	7.0m	

M'Bao Offshore Tanker is situated 2 miles NE of Ile de Goree. It consists of a multi-mooring buoy berth and lies in a depth of 15m. A submarine pipeline extends N and NE from the berth to the shore and is marked by a lighted buoy which is moored 3 miles E of Pointe de Bel-Air.

Tankers, with drafts up to 13m, can be handled. Vessels generally berth in daylight only, but may leave at any time. Another multi-mooring buoy berth, used for the discharge of ammonia, lies at the seaward end of a submarine pipeline which extends 0.5 mile SW from the shore, close E of the oil pipeline.

Aspect.—Baie de Goree lies between Cap Manuel and Cap Rouge, 15 miles E. It is the largest and safest bay on the W coast of Africa, even though exposed to S winds.

Pointe de Dakar is located 1.5 miles NNE of Cap Manuel. The coast between is dominated by the city of Dakar. Several conspicuous radio masts stand on the point and a breakwater extends 0.3 mile SE of it.

Ile de Goree, 35m high, lies 1.2 miles E of Pointe de Dakar. It is dark in color, with reddish or yellow rocks, and is surrounded by large stone blocks. The swell breaks heavily on this island. A fort marks the N extremity of the island and its S part is surmounted by a castle. A light is shown from a tower, 3m high, standing on a prominent white building, at the S extremity of the island.

Submerged obstructions lie between the S part of this island and the breakwater which extends from Point de Dakar.

A stranded wreck, marked by a lighted buoy, lies close NE of the N extremity of Ile de Goree.

Pointe de Bel-Air, 21m high, is located 2 miles N of Pointe de Dakar. The port and city of Dakar extend to this point and a spit, with depths of less than 5m, extends up to 0.5 mile E of it.

Banc de Bel-Air lies 1 mile E of the Pointe de Bel-Air. It has a least depth of 3m and consists of rocky pinnacles covered with weeds. A dangerous wreck, marked by a buoy, lies about 1 mile ESE of this bank.

The N shore of the bay lying E of Rade de Dakar consists of a white sandy beach backed by low land which is covered with trees. The village of Thiaroye, with a conspicuous mosque, is situated 3 miles NE of Pointe de Bel-Air.

A prominent water tower, marked by obstruction lights, stands 1 mile W of the mosque. A conspicuous refinery stands 2 miles E of the mosque at M'Bao; its flares make an excellent landmark at night. In the city of Dakar, the Grande Mosque, with a conspicuous minaret, stands 1.2 miles WNW of Pointe de Dakar. The conspicuous cathedral and government building stand 1 mile N of Cap Manuel.

Lighted Buoy No. 12 is moored about 0.5 mile NE of the N end of Ile de Goree and marks the approach to the harbor. A shoal, with a depth of 11m, lies close NW of this lighted buoy.

Lighted Buoy No. 1 is moored about 1.5 miles NE of the N end of Ile de Goree and marks the approach to the offshore tanker terminal berth.

Pilotage.—Pilotage is compulsory for vessels over 100 grt. Vessels should send an ETA 24 in advance and confirm arrival time 2 hours, 1 hour, and 20 minutes before arrival. Pilots can be contacted on VHF channel 6, 12, or 16 and board about 0.9 mile NNE of Ile de Goree.

Regulations.—Vessels entering the harbor must pass N of Lighted Buoy No. 12; vessels leaving the harbor must pass S of Lighted Buoy No. 12.

Vessels must not pass between Pointe de Dakar and Ile de Goree.

Anchorage.—Rade de Dakar, which extends N and NE of Ile de Goree and E of Dakar Harbor, is well-sheltered except

during the rainy season when tornadoes blow from the E and quickly raise a choppy sea. The roadstead has depths which decrease gradually from 19m in its outer part and lie over a bottom of sand; in the S part, the sand is mixed with shells and gravel.

Caution.—Due to silting, depths alongside the berths in the harbor may change.

A prohibited passage area, the limits of which are shown on the chart, lies between Ile de Goree and Pointe de Dakar.

A danger area, the limits of which are shown on the chart, lies about 2 miles NE of the offshore oil berth. This area, which is marked by buoys, extends 2 miles seaward from the shore. Banc de la Resolute lies within the danger area.

Several wrecks, some dangerous, lie in the approaches to the port and may best be seen on the chart.

Dakar to the Riviere Saloum

11.5 Cap de Biches (14°43'N., 17°18'W.), located 2.5 miles ESE of the M'Bao refinery, is an ill-defined point formed by a hill, 12m high. The cape slopes steeply seaward and a spit, with depths of less than 1.5m, extends about 0.5 mile S from it. A prominent power station stands close N of this cape.

The town of Rufisque is situated 1.5 miles ESE of Cap de Biches. Piers, in ruins, front the town and are no longer used. A light is shown from a tower, 11m high, standing at the W side of the town. Several radio masts, 236m high, stand 2.5 miles N of the light.

Banc de Rufisque, a flat rocky patch with a least depth of 8m, lies about 2.5 miles SW of Rufisque. A dangerous wreck lies, position approximate, lies about 3.5 miles SSW of this bank.

Cap Rouge (14°38'N., 17°11'W.), an ill-defined point of reddish color, is located 8.5 miles SE of Rufisque. The coast between is low and formed by a narrow sand and shingle beach which is backed by shallow lagoons. The walls of a factory, in ruins, mark the village of Siendou, situated midway along this stretch of shoreline. A chain of dunes, 50 to 100m high, terminates at the coast on each side of this cape. A conspicuous tree is reported to stand 0.5 mile E of the cape.

The coast between Cap Rouge and Pointe de Sangomar, 54 miles SSE, is generally low, wooded, and fringed by a sandy beach with rocks in places. Landmarks are infrequent and navigation near the shore is especially dangerous in several places. The sea generally breaks heavily along this coast.

About 0.8 mile SE of Cap Rouge, the slopes of a hill, 46m high, terminate in a conspicuous red cliff, cut by a ravine. A sandy beach, with a few low cliffs, then extends SE from the cliff to the village of Toubab Dialao (Toubab Guillaou). This village can be identified by a prominent hill, 70m high, standing 1.5 miles E of it.

The village of Popenguine, situated 4 miles SE of Toubab Dialao, can be recognized by the grey belfry and red tiled roof of its mission which is visible over the trees. This village stands at the opening of a valley. A prominent peak, 50m high, stands on the N side of the valley; another prominent peak, 80m high, stands on the S side. The latter peak is the highest point in this vicinity and slopes seaward to form a cliff, 72m high, which is known as Cap de Naze. This cliff stands out against the background of greyish brush and is fronted by a

bank, with depths of less than 5m, which extends up to 0.3 mile offshore.

11.6 Pointe Gombaru (14°30'N., 17°05'W.), located 2.5 miles SSE of Cap de Naze, is a low point fronted by rocks. Rocks border the coast between this point and the mouth of the river Somone, 0.4 mile SSE. The entrance of this river is almost entirely blocked by a drying sandbank.

The coast between Pointe Gombaru and Mbour, 10 miles SE, is low and covered with vegetation and large trees. The villages of Ngaparou, Sali, and Portudal are situated along this stretch.

Anchorage can be taken, in depths of 8 to 10m, sand bottom, off Portudal and a landing can be made at a break in the reef, 0.5 mile wide, close W of the village.

Mbour (14°24'N., 16°58'W.), an important village, can be recognized by the prominent water tower standing in its S part. Reefs extend up to 0.7 mile SW of the N part of the village and are marked by a buoy. A shallow wreck lies about 5.5 miles SW of the village. Anchorage can be taken, in a depth of 8m, close W of the village. A small pier fronts the village and is used by lighters.

The coast between Mbour and Pointe Senti, 15 miles SSE, is flat, monotonous, and presents few landmarks.

The village of Nianine, situated 4 miles SSE of Mbour, can be recognized by an ancient residence standing near its S end. Pointe Sarene, on which the sea breaks, is located 7.5 miles SSE of Mbour. It is low and difficult to identify. The village of Sarene is situated 0.8 mile E of this point. Ngazobil, a religious and agricultural establishment, is situated 1 mile N of Pointe Senti and can be recognized at a considerable distance by its large building with a red roof.

The village of Joal is situated 2.5 miles SE of Pointe Senti. It stands on a peninsula at the NW side of a drying estuary which is about 2 miles wide. This village can be recognized by a large white house which is extended on each side by a white wall. A light is shown from a framework tower, 13m high, standing in the S part of the village.

Banc de Mbour, with depths of less than 5m, extends from a position lying about 5 miles WNW of Pointe Sarene to a position lying about 6 miles WSW of Pointe Sarene. Its least depth of 2.3m and a depth of 2.8m lie 4.5 miles W and 5 miles WSW, respectively, of Pointe Sarene. A lighted buoy is moored about 7 miles W of Pointe Sarene and marks the W side of this bank.

A dangerous wreck is reported to lie about 11 miles WSW of Pointe Senti.

Navigation between Banc de Mbour and the coastal bank is dangerous due to the presence of numerous shoal patches with depths of 3 to 5m. Vessels without local knowledge should remain in depths of over 17m when in the vicinity of the bank.

The coastal bank, with depths of less than 5m, extends in places up to 5 miles offshore and may best be seen on the chart.

Banc de Guque and Banc de Faguque, with depths of less than 5m, lie near the outer edge of the coastal bank; they extend up to 6.5 miles WNW and 5 miles SW, respectively, of Joal Light. Depths of less than 3m lie about 4.5 miles WNW and 2.5 miles SW of Joal Light. A shoal patch, with a depth of 1.2m, lies about 3.5 miles SW of Joal Light.

The drying estuary, lying close S of Joal, is extended offshore by large drying sand banks; the coast to the S of it is flat

and regular. The villages of Ngalou and Palmarin are situated 6 miles and 8.5 miles SSE, respectively, of the drying estuary. They are visible from seaward, especially in the evening.

Several prominent reddish dunes stand 2.5 miles S of Palmarin. The coast between these dunes and Pointe de Sangomar, 9 miles S, is formed by a low and narrow peninsula within which is the River Saloum. A group of trees hides the ruins of the factory at Djifere, 5 miles S of Palmarin. A dangerous wreck lies about 3.5 miles SW of Djifere. A stranded wreck is reported (1993) to lie about 7 miles W of Djifere.

The village of Diokhane is situated 2 miles S of Djifere. Four prominent towers of a mosque are situated at Dionouar, 3 miles SE of Djifere, on the E bank of the river. These towers may be seen from the vicinity of Diokhane over the vegetation on the peninsula.

Pointe de Sangomar (13°50'N., 16°46'W.), the S extremity of the peninsula, is low and sandy, with little vegetation. Banc du Nord, on which the sea breaks, extends 1.5 miles S of the point. The ruins of disused customs house, surmounted by a beacon, stand 1.2 miles N of the point.

The Riviere Saloum

11.7 The Riviere Saloum (13°51'N., 16°45'W.) is entered between Pointe de Sangomar and Pointe Jackonsa, 5 miles SE. The river is navigable by vessels up to 105m in length as far as Kaolack, 66 miles above the mouth, depending upon the tides and the depths on the bar. The river entrance is obstructed by several shifting sandbanks and is subject to violent currents. It is also subject to frequent changes and should not be attempted without a pilot.

The harbormaster at Kaolack should be contacted for the latest information concerning entry.

Tides—Currents.—Tides rise 2.5m at springs and 1.3m at neaps. Depths on the bar and in the river can be greatly influenced by the wind and may increase or decrease by as much as 0.2m.

In the channel over the bar, the flood tidal current sets ESE with a maximum rate of 0.6 knot. The ebb tidal current sets WNW with a maximum rate of 1 knot. At Foundiougne and Kaolack, the tidal currents have rates of less than 1 knot.

The salinity of the water in the Saloum is greater than that of the sea, increasing upriver until it reaches a maximum at Kaolack.

Winds—Weather.—The dry season lasts from November to June, with prevailing N winds. The rain, or tornado season, lasts from July to November, with prevailing SW to W winds.

Depths—Limitations.—The channel over the bar is very winding and extends in an ESE direction. Inside the bar, it passes between the S extremity of Banc du Nord and Ile de Sable, and then N along the E side of Banc du Nord.

Ile de Sable, a drying sandbank, is extended E and then NE by training walls which, by deflecting the river current, contribute to the maintenance of the channel depths.

Saloum Entrance Lighted Buoy is moored about 4.5 miles W of Pointe de Sangomar. The entrance channel is marked by buoys and has a width in places of less than 40m.

It was reported (1987) that the depth over the bar was 2.9m. An underkeel clearance of 0.5m over the bar is recommended. It is reported that vessels with a deep draft will stir up mud,

even in calm weather, and frequently touch bottom even in a light swell. Vessels should cross the bar from 2 hours before to 1 hour after HW.

From Pointe de Sangomar to Foundiougne, the river is obstructed by several mud banks, drying flats, and islets. The fairway is marked by buoys.

Marigot de Sangako leads off the river, 22 miles above the entrance. This creek is important as it forms a waterway for vessels up to 50m in length and 2.8m draft to the rivers of Djomboss and Bandiala.

The Riviere Silif, a river used by local vessels, enters the Riviere Saloum abreast of Foundiougne. It has depths of 5m as far as the town of Silif, 12 miles above the entrance.

At Foundiougne, anchorage can be taken, in depths of 3.5 to 7m, E of the mouth of the Riviere Silif. The piers which front the town are partially destroyed but a new wharf, 61m long, is situated close W of them.

The Riviere Saloum above Foundiougne is narrow and winding, but due to the buoyage and the measures to avoid vessels meeting in the bends, it offers no particular difficulty.

Lyndiane, situated 22 miles above Foundiougne, has a quay, 396m long, with a depth of 5m alongside. There is also a small pier for tankers at the oil refinery. Vessels up 2,900 dwt and 81m in length have been handled here.

11.8 Kaolack (14°08'N., 16°05'W.) is fronted by a quay, 636m long, with a depth of 4m alongside. There is also a small pier for loading salt. Vessels generally turn above the town and moor headed downstream with an anchor laid in mid river. During the rainy season, vessels should let go a stern anchor.

A bridge crosses the river 1 mile above Kaolack and only small boats can navigate above it.

Pilotage.—Pilotage is compulsory for vessels over 150 grt. Pilots embark and disembark at Dakar.

Navigation is possible at night between the bar and Foundiougne, 33 miles upriver. Navigation is prohibited at night on the bar and between Kamatane, 20 miles below Kaolack, and Kaolack.

Regulations.—Vessels navigating in the river must be ready to anchor immediately fore and aft.

Vessels must not exceed a speed of 8 knots while passing the wharves at Foundiougne.

Vessels must not exceed a speed of 6 knots while passing the wharves at Lyndiane and proceeding between the bend at Velor and Kaolack.

Overtaking is prohibited at all bends and when between Ben Rone, 3 miles below Kaolack, and Kaolack. A vessel wishing to overtake should sound one long blast on the whistle or siren.

Vessels navigating against the current give the right of way to vessels navigating with the current.

Traffic is regulated to avoid risk of collision, especially in the bend at Velor and between Lyndiane and Kaolack. Instructions are transmitted by radio.

The Riviere Djomboss and the Riviere Bandiala

11.9 The Riviere Djomboss (13°45'N., 16°39'W.) is entered between Pointe Jackonsa and Pointe des Oiseaux, 5 miles SE. The river is unmarked and unsuitable for navigation. The extensive shoals which lie in the entrance dry over large areas

and the sea breaks heavily on them in any breeze. These shoals extend 4 miles W of Pointe Jacksons and nearly 7 miles W of Pointe des Oiseaux.

Banc de L'Ile des Oiseaux, which dries, lies 5 miles WSW of Pointe des Oiseaux and is the outermost bank. Ile de Diamanio and Ile des Oiseaux lie on these shoals S and SSW, respectively, of Pointe des Oiseaux.

The banks are dangerous to approach, especially during the harmattan season, as the haze makes the land appear farther off than it really is. Soundings are no guide, as in many places the edge of the bank rises abruptly from a flat of 7m to less than 1m.

The Riviere Bandiala, entered 10 miles SE of Pointe Jacksons, is obstructed by sandbanks at its mouth. The mouth of Bolom Djinnack, lying 3 miles farther SSE, is also obstructed by sandbanks.

Caution.—Vessels proceeding to or from the Riviere Saloum or the River Gambia should stay at least 8 miles W of Pointe des Oiseaux. Due allowance should be made for the strong tidal currents in this vicinity.

Estuary of the River Gambia

11.10 The estuary of the River Gambia lies between Ile des Oiseaux (13°40'N., 16°40'W.) and Bald Cape (13°23'N., 16°47'W.). It is 17 miles wide at its W limit, but is reduced to a width of 9 miles between Cape St. Mary and Buniada Point.

Bald Cape (13°23'N., 16°48'W.) is bare, marked by red patches, and although low, is the highest land in the vicinity. This cape is fronted by rocks and reefs, some drying, which extend up to 4 miles W.

The Bijol Islands consist of two islands on the reef W of the cape. They are covered with bush and trees. A disused light-house stands on the SW island, but is not easy to be distinguished against the background of coastal trees.

The coast from Bald Cape to Cape St. Mary, 10 miles NE, becomes progressively lower and reddish cliffs may be seen against the green background.

Cape St. Mary (13°29'N., 16°40'W.) is low, but the land located within 0.5 mile SW of it rises to a height of 19m. The city of Banjul (Bathurst) is situated 5 miles farther ESE. Toll Point, located 3 miles ESE of the cape, is low and sandy. Oyster Creek enters the sea 0.5 mile W of the Toll point and a conspicuous chimney, 23m high, stands near its entrance.

The E shore of the estuary, S of Buniada Point, is a low and featureless expanse of mangroves, with occasional tall trees in the background. The entrances to the Riviere Bandiala and Bolom Djinnack are not easily identified until near the coast.

Barra Point, located 5.5 miles S of Buniada Point, is marked by a light and can be identified by a conspicuous fort. It is reported (1993) that a racon is situated at the light.

The boundary between Senegal and Gambia lies about 6.5 miles N of Barra Point.

The W part of the estuary to the meridian of Cape St. Mary has general depths of 7 to 9m. East of this meridian, the estuary is encumbered by banks and shoals, with a narrow gullet of deeper water in its N part. This gullet widens and deepens towards the entrance of the River Gambia.

Tides—Currents.—The tidal rise at Banjul (Bathurst) is 1.8m at springs and 0.7m at neaps.

The tidal currents are affected by weather conditions in the estuary and by rainfall in the upper river. Between 1 hour and 4 hours after HW at Banjul, the current outside the river entrance sets onto St. Mary Shoal and Middle Ground. During both the flood current and the ebb current, a strong set flows across African Knoll and Middle Ground. The ebb tidal current sometimes stirs up large patches of discolored water throughout the channel.

In the outer approaches, the influence of the North Equatorial Current is experienced. In the river and the entrance, the current is mostly dependent on the level of the river as affected by the rainfall in the upper part of the river. The strongest currents occur in September and decrease in velocity as the level of the river falls to its average level in December and January. When the level of the river is high, the combination of the current and ebb tidal current at springs causes considerable swirls off Banjul (Bathurst) and vessels ride uneasily at anchor. Off Banjul, these currents attain rates up to 3 knots at springs.

An approach channel, which leads across the flats in the W part of the estuary delta, has a depth of 7.5m at LW and 8.5m at HW.

Horseshoe Bank, which is formed by the N part of the flats occupying the outer part of the estuary, has depths of 5.8 to 7m; strong eddies form it.

St. Mary Shoal, a narrow bank, extends 6 miles NW of Banjul and dries in places. Stop-in-time Bank, which extends up to 1.5 miles farther NW, consists of three shoals and has a least depth of 3.4m. Schooner Gap, a narrow channel, has a depth of 5.8m and separates these two banks.

African Knoll, with a least depth of 4.9m, lies 2 miles E of the N extremity of Stop-in-time Bank and is the northernmost of the shoals which front the S shore of the estuary. It was reported (1975) that this shoal was extending to the SE.

Middle Ground, with a least depth of 3.7m, lies 0.8 mile S of African Knoll. Three small detached patches, with depths of 5.5m or less, lie close S of it.

Canoe Grounds, an extensive flat, has depths of less than 5m and extends from the coast between Cape St. Mary and St. Mary Shoal.

The E shore is fronted by a bank, with depths of 3.6m or less, and extends up to 2.5 W. Part of this bank, which extends 1.7 miles W of Buniada Point, dries from 0.3 to 1.2m.

Dangerous wrecks lie about 1.5 miles SSE and 3.5 miles SE of Fairway Lighted Buoy No. 1. A wreck, swept to a depth of 9.6m, lies 1 mile SE of Fairway Lighted Buoy No. 1.

Aspect.—A conspicuous water tower, 43m high, stands 2 miles WSW of Cape St. Mary. A light is shown from the top of this tower. It was reported (1986) that the water tower was no longer conspicuous and the light was unreliable and at reduced power. It was reported (1990) that a racon was situated at the light.

Several conspicuous buildings stand above the cliffs, 0.5 mile SW of Cape St. Mary. They are reported to be very conspicuous in the afternoon light, especially an old white fort.

Government House, with a flagstaff, stands close W of Banjul Point and is prominent.

Several radio masts, marked by obstruction lights, stand 0.3 mile WNW of Banjul Point. A radio tower, 46m high, stands close S of the same point.

The approach and entrance channels are indicated by lighted ranges and marked by buoys which may best be seen on the chart.

Fairway Lighted Buoy No. 1 is moored about 11 miles NW of Bald Cape.

Pilotage.—Pilotage is compulsory for all vessels above Lighted Buoy No. 5, which is moored on the W side of the entrance channel about 3 miles NW of Barra Point. Vessels should send an ETA 48 hours and 12 hours in advance. Pilots can be contacted on VHF channel 12, 14, or 16 and generally board in the vicinity of Banjul Point.

Anchorage.—Anchorage can be taken anywhere in the estuary of the River Gambia where depths permit, without restriction to the length of a vessel.

Caution.—The channel buoys are reported to be unreliable; some of them are frequently reported to be extinguished, damaged, or missing.

Several wrecks, some dangerous, lie in the approaches to the river and may best be seen on the chart.

Large concentrations of fishing canoes, fishing stakes, and poles may be encountered in the channel.

Banjul (Bathurst) (13°27'N., 16°34'W.)

World Port Index No. 45825

11.11 Banjul (Bathurst) is situated on the W entrance point of the River Gambia, at the E extremity of St. Marys Island. The city stands only just above HW and is backed by marshes.

Depths—Limitations.—Government Wharf, situated 0.2 mile S of Banjul Point, is reported (1986) to be no longer utilized due to extensive silting along its face.

New Banjul Wharf, situated 0.5 mile S of Government Wharf, is a newly constructed quay with facilities for containers and liquid cargo. It is 120m long and has a least depth of 9.8m alongside. Mooring buoys have been stationed close to each end of this wharf.

Banjul Wharf, situated at Dockyard Point, is L-shaped and provides two deep-water berths. The outer berth is 122m long, with a depth of 8.2m alongside; the inner berth is 102m long, with a depth of 6m alongside. Mooring dolphins are situated off each end of this wharf.

Vessels up to 123m in length have been accommodated alongside. It is reported that vessels up to 183m in length and 8.2m draft can be handled at HW. Vessels of any length may use the anchorage and lighters are available.

Aspect.—See Estuary of the River Gambia in paragraph 11.10 for further information. Conspicuous lattice towers stand at the N ends of both New Banjul Wharf and Banjul Wharf.

Anchorage.—Anchorage may be taken, in depths of 22 to 26m, sand and mud, up to 0.5 mile off the Government Wharf.

Caution.—Winds from the E sometimes raise heavy seas on the ebb tide.

Reduced visibility due to dust haze is common in the months of December and January.

Submarine cables lie between Banjul and Barra Point and may best be seen on the chart.

It is reported that many anchors have been lost in the harbor, making parts of the anchorage foul, especially near the shore.

The River Gambia

11.12 The River Gambia rises in the Fouta Djallon highlands, standing about 300 miles E of its mouth, and flows W for about 700 miles over a sinuous course. The river is navigable by vessels not exceeding 3.6m draft as far as Georgetown, 156 miles from Banjul (Bathurst). At Kuntaur, 129 miles from Banjul, vessels can load to a draft of 4.6m. Vessels with a draft of 2m can go as far as Fattoto, 112 miles above Georgetown.

The river is marked by buoys for the first 80 miles, but local knowledge is necessary for navigation; lighted buoys mark the river for about 50 miles from Banjul.

The entrance of the river lying between Barra Point and the town of Banjul is about 2 miles wide. Immediately above the town, the river expands to a width of 7 miles. It gradually decreases in width to 0.3 mile at MacCarthy Island, 156 miles above the entrance.

The banks of the river, covered with mangrove brushes, are composed mostly of soft mud, rendering landing impossible, except at the creeks or at the few villages on the banks.

Kuntaur (13°40'N., 14°53'W.) is situated 129 miles above Banjul. There are many wharves and warehouses here. Good anchorage, in midstream, may be taken by vessels up to 76m in length and 4.6m draft.

11.13 Georgetown (13°34'N., 14°47'W.) is situated midway along the N side of MacCarthy Island, 156 miles above Banjul. There are factories fronted by wharves, alongside which vessels of 1,500 to 2,000 grt load. Good anchorage can be taken, in a depth of 4.6m, off the principal wharf.

Tides—Currents.—The lowest water level in the River Gambia occurs in March and April. The level of the river commences to rise after heavy rains have fallen in the upper part and reaches its highest level about September. In the river entrance, the rise in mean level is about 0.1m and between Fort James Islet and Kuntaur, about 0.3m.

When the River Gambia is in its average state, the current is not appreciable. An outgoing current commences after heavy rains in the upper river and attains its maximum rates, 0.5 knot to 1.5 knots, in September.

During heavy rains, large variations from the predicted tidal currents are to be expected near the entrances of the large creeks. The tidal influence extends for several miles up these creeks, the range of tide decreasing with the distance from the main river. A spring range of about 0.9m can be expected, 3 miles up these creeks.

In the main channel S of Banjul, the tidal currents set fairly through the channel and attains rates of 2 knots on the flood and 3 knots on the ebb.

Anchorage.—Vessels can anchor S of Banjul, but should avoid the vicinity of the rocky area lying 2.3 miles SSE of Banjul Point.

Bald Cape to the Riviere Casamance

11.14 From **Bald Cape** (13°23'N., 16°47'W.), previously described in paragraph 11.10 to the entrance of the Allahine River (San Pedro River), 19 miles S, the coast is very low and fronted by a sandy beach covered with trees.

Solifor Point (13°20'N., 16°49'W.), located 3 miles SSW of Bald Cape, is bordered by a reef which extends up to 1 mile W. Saniang Point, located 4 miles farther S, is also fronted by a reef. Dangerous wrecks are reported to lie about 17 and 24 miles W of this point.

A thickly wooded point is located 13 miles S of Bald Cape and foul ground extends up to 1 mile seaward of it. The village of Gunjur stands 1.5 miles NE of this point.

A low point is located 5 miles S of the thickly wooded point. A reef extends up to 0.8 mile seaward of this point and the sea always breaks on it.

Caution.—The coast between Bald Cape and the vicinity of the mouth of the Allahine should not be approached within 7 miles without local knowledge, as the area has not been fully surveyed.

11.15 The **Allahine River** (San Pedro River) (13°04'N., 16°45'W.) is entered 13 miles SSE of Saniang Point. It is completely closed by sandbanks, except at HW. The trees in this vicinity appear from a distance like a forest with lofty clumps, resembling islands. This river forms part of the boundary between Gambia and Senegal.

A dangerous wreck, marked by a buoy, is reported to lie about 10.5 miles SW of the river entrance.

The coast from the mouth of the Allahine River to the entrance of the Riviere Casamance, 30 miles S, is flat, with a white sandy beach, on which the sea breaks heavily.

The S part of this section of coast is intersected by three river channels. The Riviere Bliss (12°46'N., 16°47'W.) is very difficult to identify. It lies between the S end of Presqu'île aux Oiseaux, 18 miles S of the mouth of the Allahine, and Ile aux Oiseaux, which lies on the outer edge of an extensive drying sandbank, 0.5 mile SSW. The Riviere Kalisseye (Souta) (12°42'N., 16°47'W.) enters the sea 4 miles S of the Riviere Bliss and can be identified by the wide gap formed in the coast. Marigot aux Huitres (12°39'N., 16°47'W.) enters the sea 7 miles S of the Riviere Bliss and is also difficult to distinguish. Heavy breakers occur in all of these entrances.

The bottom along the coast, between Bald Cape and the entrance to the Riviere Casamance, is formed of mostly gray sand extending out to depths of 18m. Farther offshore, the bottom is formed of brown or black sand or mud; sometimes it has a greenish tint.

Banc du Large, with depths of 8 to 10m, extends up to 15 miles W from the coast between the Riviere Bliss and the Riviere Kalisseye (Souta).

The current generally sets SSW between Bald Cape and Cap Roxo (12°20'N., 16°43'W.). Near the coast and especially at the mouth of the Riviere Casamance, it is influenced by the tides.

Caution.—Thick fogs are frequent in the morning along this section of coast, especially during the good weather season. They usually dissipate by late morning. There are also refractions which may cause errors in astronomical observations.

The Riviere Casamance (Karabane) (12°34'N., 16°46'W.)

World Port Index No. 45822

11.16 The Riviere Casamance (Kasamanze River) is entered between Pointe de Djogue (Jogue Point), the S extremity of Ile Djogue (Ile de Diogue), and Pointe de Nikine, 1.2 miles S. The mouth of the river is encumbered with dangerous banks which limit the draft of vessels entering.

Tides—Currents.—Tides at the bar rise 1.5m at springs and 1.3m at neaps.

Slack water occurs about 2 hours after HW and LW; it is of short duration. In Passe Mediane, the only one used by vessels of any size, the tidal current sets in the direction of the passage in the NW and SE sections, but forms a cross-current over the middle section. The currents attain maximum rates of 1 knot.

Off Pointe de Djogue, the flood current sets ENE at 0.5 knot to 1.5 knots; the ebb current sets WSW at 0.7 knot to 2.8 knots. Off Karabane, the flood current sets E at 0.5 knot to 1.5 knots; the ebb current sets W at 0.5 knot to 2 knots.

Depths—Limitations.—The entrance of the river is fronted by two main banks which form a bar. Banc du Nord, composed of hard sand and shells, practically stretches entirely across the entrance and the sea breaks heavily on it. Banc du Sud, composed of sand and gravel, extends between Banc du Nord and the coast lying close N of Diembering; this bank is subject to great change and the sea breaks only on its W part.

Three channels cross the bar, but only Passe Mediane, which crosses Banc du Nord, is used by commercial vessels. It was reported (1985) that Passe Mediane had a least depth of 3.7m. Vessels having crossed the bar are able to navigate the river as far N as Ziguinchor, 34 miles above the entrance.

Generally, with no swell, vessels up to 120m in length can cross the bar, with drafts up to 4.7m at HWS and up to 4.1m at HWN.

Ile de Karabane (Ile de Carabane) lies on the S side of the river, E of Pointe de Nikine. It is fringed by shoal banks on the N side. The village of Karabane (Carabane) is situated on the NE end of the island and is fronted by a small pier. Depths of less than 5m extend up to 0.2 mile offshore in the vicinity of this pier.

The river from Karabane to Ziguinchor is fine and navigable. It is wide and deep, with no sharp bends, and navigation is easy and possible even in the moonlight.

Aspect.—The mouth of the river forms a very wide and distinct cut in the line of trees bordering the coast.

A light is shown from a pylon, 19m high, standing on Pointe de Djogue. A signal station is situated at the light, but the pylon is reported to be not easily identified.

The land to the S of Pointe de Nikine is higher than Ile Djogue and two prominent towers can be seen standing 1.7 and 4.5 miles SSW of the point. A conspicuous hill covered with trees stands 5 miles SSW of Pointe de Nikine and close W of the village of Diembering (Guimbering).

The coast S of Diembering is described with the estuary of the Rio Cacheu in paragraph 11.18.

Casamance Lighted Buoy is moored in a depth of 10m, about 9 miles WNW of Pointe de Djogue. The entrance chan-

nel over the bar is marked by buoys and lighted buoys. These are moved as necessary to meet the changes in the channel.

Pilotage.—Pilotage in the Riviere Casamance is compulsory. Pilots are normally embarked and disembarked at Dakar. No vessel should attempt to enter this river without a pilot. Pilots usually take vessels across the bar from 2 hours before to 1 hour after HW.

Anchorage.—Anchorage can be taken, in a depth of 10m, hard sand, off a small pier situated 0.7 mile ENE of Pointe de Djogue Light. Anchorage can also be taken, in depths of 8 to 10m, about 0.5 mile NW of the pier at Karabane.

Caution.—Several wrecks, some dangerous, lie in the approaches to the river and may best be seen on the chart.

Vessels should only enter the channel across the bar in navigable weather.

Due to the lack of landmarks and the presence of shoals, it is not advisable to make a landfall N of the mouth of the river.

The navigational aids in the Riviere Casamance are unreliable; they may be missing, unlit, or out of position.

11.17 Ziguinchor (12°31'N., 16°16'W.) is an important commercial center and has a port radio station. It is fronted by a quay, 340m long, with a depth of 5m alongside.

The river has a navigable width of 500m here between the banks. Anchorage can be taken, in depths of 8 to 12m, off the town.

A submarine cable crosses the river at the W end of the town; anchorage is prohibited in this vicinity. In addition, anchorage is prohibited near the ferry crossing.

Above Ziguinchor, the river is only frequented by lighters. Goudoump lies 25 miles upstream and is an important fishing center. Sediou, situated 50 miles upstream of Ziguinchor, is a large commercial center.

Estuary of the Rio Cacheu (Cacheu) (12°05'N., 16°30'W.)

World Port Index No. 45835

11.18 The estuary of the Rio Cacheu (Cacheo River) lies E of the meridian of Cap Roxo (12°20'N., 16°43'W.) and N of Ilheu de Caio (Ilhas Caio), 38 miles SE. The shores of the estuary are low and difficult to identify. The estuary is encumbered with dangerous banks and shoals which are subject to frequent changes in depth and shape. Cacheu and Farim are situated 11 and 90 miles, respectively, above the river mouth.

The dangerous banks, which encumber the estuary, extend S of Cap Roxo to the parallel of 12°N. These banks are narrow, long, and oriented E-W.

Baixo de Coimbra, with a least depth of 1.5m, extends up to 10 miles W from Cabo Varela. Baixo de Falulo, with a least depth of 1.2m, extends up to 18 miles W of Ponta de Jufunco. Baixo de Sao Mandovi, with a least depth of 1.5m, extends up to 24 miles W of Ponta Cabaceira. Banco das Ilhetas, with depths of less than 1m, extends up to 37 miles W of Ilheu de Caio.

Tides—Currents.—At Cacheu, tides rise 2.8m at springs and 2.3m at neaps. At Varela, tides rise 2.2m at springs and 1.8m at neaps.

The flood current on the bar generally sets E and the ebb current sets W. The currents can reach rates up to 2.5 knots at springs. Slack water can occur up to 2 hours after HW.

In the river, the ebb current generally runs for 8 hours while the flood current, which is often merely a SW or lessening of the ebb, rarely runs for more than 4 hours.

Around December, after the rains, the wind generally blows from the NE to ESE and tends considerably to strengthen the ebb current. During this period, vessels at anchor rarely swing to the flood.

Depths—Limitations.—Southwest Channel, the only entrance channel in use, is reported (1989) to have a least depth of 3.2m. The Rio Cacheu (Cacheo River) is navigable for vessels up to 3.7m draft to a position about 4 miles below Farim, a town situated 90 miles above the river entrance. Anchorage can be taken, in a depth of 9m, mud, off Cacheu. The town is fronted by a small pier which is used by lighters.

Aspect.—The approach to the Rio Cacheu is via Rio Geba Approach Lighted Buoy, which is moored about 23 miles WSW of Ilheu de Caio. A depth of 7.3m and the possibility of a developing sand bar were reported (1985) to lie in an area 9.5 miles SW of this lighted buoy.

The entrance to Southwest Channel is marked by Lighted Buoy No. 1, which is moored 16 miles NW of Ilheu de Caio. The fairway is marked by lighted buoys and buoys, which are moved as necessary to meet the changes in the channel. The bottom of the channel is formed of soft mud, but on the banks it is hard sand and so gives immediate notice of any deviation from the fairway.

Cap Skiring (12°25'N., 16°46'W.) is located 9.5 miles S of the entrance to the Riviere Casamance and is fronted by a sandy beach. Inland of this beach, there are several prominent wooded hills. A metal framework tower, 30m high and marked by obstruction lights, stands 0.7 mile SE of the cape. It was reported (1988) that an aeronautical radiobeacon is situated 1.5 miles SE of Cap Skiring.

Cap Roxo (12°20'N., 16°43'W.), located 4.5 miles SE of Cap Skiring, is a low sandy point. Several white sand hills, capped by trees and bushes, stand close W of it. The cape derives its name from some red patches lying close N of it.

The boundary between Senegal and Guinea-Bissau lies close N of Cap Roxo.

The shore between Cap Roxo and Ponta Varela (Cabo Varela), 8 miles SE, consists of a white sandy beach backed by low, swampy ground and palm trees. The village of Varela stands 1 mile NW of Ponta Varela and can be seen among tall trees on top of a reddish cliff.

The coast between Ponta Varela and Ponta de Jufunco (Jufung Point), 10 miles SE, is very wooded.

Cabo de Mata (12°10'N., 16°19'W.), marked by a light, is the S entrance point of the Rio Cacheu. The E shore of the estuary between this cape and Ponta Cabaceira, 9 miles SSW, is fronted by mangroves backed by palm trees.

Canal de Jeta (Jata Channel) is entered between Ponta Cabaceira and the N extremity of Ilha de Jeta (Ilha de Jata), 4 miles SE. The W shore of Ilha de Jeta extends 7.5 miles SSW and is bordered with mangroves. Ilheu de Pelinda (Ponta Caio), a small islet, lies close off the SW extremity of Ilha de Jeta. Ilheu de Pumoune and Ilheu de Caio are located 1.2 miles S of Ilha de Jeta and lie on a large drying flat. These islets are not high,

but being covered with high trees, they stand out prominently and in clear weather, may be identified from up to 15 miles seaward.

A main light is shown from a tower standing on Ilheu de Caio (11°50'N., 16°19'W.). A racon is reported (1988) to be situated at this light.

An old light structure stands close SW of the light and is prominent. The pilot station for Bissau and the Rio Cacheu is situated on this islet.

The banks of the Rio Cacheu are fronted by mangroves as far as Batu, 65 miles above the entrance. Here, the clay soil is visible between the mangroves and the shores become steeper and rocky. Forest trees of large size, including mahogany, may be seen on the banks in this vicinity.

The river between Cabo de Mata and Cacheu, 11 miles upstream, is clear of dangers. The town of Cacheu stands on the S bank and can be identified by an old square fort and a church. Near Farim, the mangroves entirely disappear, the countryside becomes clear, and a gently-rising tract of fertile soil commences.

Pilotage.—Pilotage is compulsory for the bar and river. Pilots board about 3 miles S of Ilheu de Caio.

Anchorage.—Anchorage can be taken, in a depth of 12m, S of Ilheu de Caio. Anchorage can also be taken, in depths of 11 to 13m, good holding ground, about 2 miles WNW of Cabo de Mata.

Caution.—Several wrecks, some dangerous, lie in the estuary and the approaches to the river and may best be seen on the chart.

The navigational aids in the Rio Cacheu are unreliable; they may be missing, unlit, or out of position.

Estuary of the Rio Geba (Bissau) (11°52'N., 15°38'W.)

World Port Index No. 45838

11.19 The vast estuary of the Rio Geba extends S of Ilheu de Caio (11°50'N., 16°19'W.) and is encumbered by Arquipelago dos Bijagos and its surrounding banks and shoals.

The Great Geba Flack extends W of the Rio Geba estuary. Several dangerous wrecks have recently (1987) been charted in the S approach to Geba Approach Lighted Buoy; the possibility of the existence of a sandbar in this vicinity has been reported. Charted depths in the approach should be regarded with caution and can not be relied upon.

Canal do Geba (Jeba Channel), 15 miles wide, leads between Ilheu de Caio, on the N side, and Ilha Caravela, 18 miles S. It is generally accessible to vessels up to 10m draft as far as Bissau, situated 45 miles E of Ilheu de Caio.

The usual channels of approach to the Rio Geba are Canal de Geba, on the N side of the estuary, and Canal de Orango, on the S side. The latter leads to Canal de Canhabaque, Canal de Bolama, and Canal de Pedro Alvares, which joins Canal do Geba 10 miles SW of Bissau.

Above Bissau, the river channel is encumbered by numerous shoals; vessels with drafts not exceeding 1.5m can proceed 70 miles upstream.

Tides—Currents.—Tides at Bissau rise 5.5m at springs and 4.3m at neaps. The annual rise of the Rio Geba begins in July.

The waters begin to fall about mid-September and continues to the end of October.

In Canal do Geba, between Ilheu de Caio and Bissau, the flood current sets NE and the ebb current sets SW. Off Ilheu de Caio, the ebb commences at the time of HW at Bissau. In Canal do Geba, both currents attain rates of 2 to 3 knots. Great caution is necessary during spring tides and after heavy rains, as the ebb current then runs with at a considerably stronger rate. Eddies are frequently formed off Canal de Pedro Alvares and Ilheu dos Passaros. The ebb current may attain a rate of 6 knots in these vicinities.

Tide rips and discolored water are frequently observed in Canal do Geba; their positions vary according to the state of the tide. These observations do not necessarily indicate a danger to navigation, but are usually caused by changes in depth.

11.20 Arquipelago dos Bijagos (Bijouga Islands) (Bissagos Islands) (11°15'N., 16°00'W.) consists of numerous islands and barren rocks of volcanic origin. The islands are very fertile; although lacking in water, the majority of them are inhabited.

Ilha Caravela (Caravela Island) and Ilha de Carache (Caraxe Island) are located at the NW end of the group and are low and wooded. A prominent cliff, 21m high, stands at the N end of Ilha Caravela; a partly drying shoal extends up to 5 miles W of it.

Ilha Formosa, Ilha da Ponta, and Ilha de Maio are separated by creeks and are practically one island. Baixo de Maio, with a least depth of 0.9m, extends up to 3.5 miles NW of the N extremity of Ilha de Maio. An almost continuous line of shoals and reefs extends up to 15 miles ENE from the N extremity of Ilha de Maio. The N part of these shoals consists of Baixo do Arriscado and Baixo do Gancho, both of which dry in places.

Ilha de Orango and Ilha de Orangozinho, separated by a creek, form the S part of the group. Ponta Camaleao (11°03'N., 15°53'W.), the SE extremity of Ilha de Orangozinho, is low and difficult to identify. Ilha Roxa, located at the SE end of the group, is covered with vegetation and is thickly populated. A white sandy beach, backed by tall trees, lies on the N side of this island and is intersected by dark rocky patches with mangroves on them. Ponta Barel, the E extremity of this island, is formed by a prominent reddish bluff, 20m high.

Caution.—Arquipelago dos Bijagos is fronted on its W and S sides, for a distance of 20 to 25 miles seaward, by shoals and foul ground. This foul area terminates to the NW in Bijagos Breaker and to the SE in South Breaker (10°41'N., 16°08'W.).

Bijagos Breaker, with a least depth of 3.7m, lies about 28 miles W of Ilha Caravela. Baixos do Rio Grande, which partly dries at LW, extends 10 miles W from a position lying 12 miles NW of Ilha Caravela. This extensive shoal area is usually surrounded by breakers which can be seen at a distance of more than 5 miles in normal visibility.

11.21 Canal do Geba (11°41'N., 16°00'W.), the main entrance channel to the Rio Geba, leads N of Arquipelago dos Bijagos and S of Ilha de Jeta, Ilha de Pecixe, and Ilha de Bissau. Shoals obstructing the entrance of this channel divide it into four smaller passages; the N passage, Canal de Caio, is the only one recommended for deep-draft vessels.

Baixos de Caio, a narrow shoal, lies 4 miles S of Ilheu de Caio and extends for 9 miles along the S side of Canal de Maio. It has general depths of less than 9m and a least depth of 3m. Banco do Meio lies parallel to and about 1.5 miles S of Baixo de Caio. This shoal bank is also narrow and has a least depth of 6.7m. Baixos Jaime Afreixo, which dries near its E end, lies about 2 miles S of Banco do Meio.

The above banks are steep-to and the channels leading between them are dangerous, as the soundings give no warning of their proximity.

Banco Martinho, a narrow bank, extends 6.5 miles W from a position 1 mile S of Ponta Prainha. Its central part has a least depth of 4.6m and is much shallower than the remainder. This bank is steep-to and very dangerous because the sea seldom breaks over it.

A bar, with a least depth of 7m, lies across Canal do Geba. It extends between Ponta Prainha and Ponta Bernafel, to the N, and between Baixo do Arriscado and Baixos do Gancho, to the S.

Banco do Alenquer, with a least depth of 7m, lies 2 miles S of Ponta Bernafel and extends 3.5 miles ENE from the bar. Less water than charted was reported (1983) to lie on this bank.

Banco dos Passaros, with a least depth of 7.3m, extends 1.8 miles SSW of Ilheu dos Passaros. Less water than charted was also reported (1983) to lie on this bank.

Baixo do Meio, with a least depth of 5.2m, lies about 1 mile NE of Ilheu dos Passaros.

Aspect.—See the Rio Cacheu, paragraph 11.18, for a description of Ilheu de Caio and vicinity.

Ponta Arlete (11°46'N., 16°06'W.), the S extremity of Ilha de Pecixe, is low, but prominent. This point, which is marked by a light, is thickly wooded; several villages stand near it. Ponta Ancora, the SE extremity of the island, can be recognized by several long, white sandhills which stand on it. Ilheu de Ancora lies 1.5 miles S of this point.

Ponta Biombo, marked by a light, is located 8.5 miles E of Ponta Arlete and is the SW extremity of Ilha de Bissau. The shore in the vicinity of this point is extremely fertile and densely populated.

Ilheu dos Passaros (Ilha Passaros) (11°49'N., 15°36'W.), marked by a light, lies in the approach to Bissau and is low and wooded. The SE side of this island is comparatively steep-to.

Ilheu do Rei (Ilha Rei) lies off Bissau, 2.5 miles NE of Ilheu dos Passaros. It is 16m high and marked by a light. Restinga do Rei, with depths of less than 5m, extends up to 0.5 mile SW of this island.

Pilotage.—Pilotage is compulsory for all vessels proceeding to Bissau or Bolama through Canal do Geba. Local pilots board 3 miles S of Ilheu de Caio.

Pilots will generally bring a set of river charts which are accurately maintained and should be used for the transit to Bissau.

It was reported (1987) that due to the lack of a pilot boat and VHF, vessels were proceeding upriver and taking the pilot for Bissau in the approaches to the port. However, local knowledge for entering the river is advised.

Generally, vessels approaching Canal do Geba make for the Geba Approach Lighted Buoy (11°45'N., 16°42'W.) and then proceed to the pilot boarding position S of Ilheu de Caio.

Anchorage.—See the Rio Cacheu in paragraph 11.18 for anchorage off Ilheu de Caio.

Anchorage, with good holding ground, mud, can be taken in suitable depths in all parts of Canal do Geba. A good berth lies in a depth of 20m, about 3 miles SW of Ponta Biombo, off the entrance to the Rio Mansoa.

Anchorage can also be taken, in a depth of 10m, about 0.5 mile SE of Ilheu de Ancora, but tidal currents in this area are reported to be strong.

Sheltered anchorage can be taken, in depths of 7 to 11m, mud with good holding ground, between Bissau and Ilheu do Rei. Vessels should use caution to remain clear of the shoal banks lying near this area.

Caution.—Submarine cables lie in the channel off Bissau and may best be seen on the chart. Several buoys mark these cables, but their existence cannot be relied on.

Arquipelago dos Bijagos should be approached with great caution, especially during the rainy season when the currents sometimes set towards the islands. Frequent sounding is necessary as there is generally much haze at that time and the land is difficult to distinguish when more than 3 miles offshore.

Vessels approaching Canal do Geba from the S should not get E of the meridian of 17°12'W, until the parallel of 11°50'N has been reached, when the above-mentioned directions should be followed.

The navigational aids in Canal do Geba and in the approaches to Bissau and Bolama are unreliable; they may be missing, unlit, or out of position.

11.22 Bissau (11°51'N., 15°35'W.), a small port, is situated on the N bank of the river. It can usually be reached by vessels, with drafts of less than 7m, at all states of the tide without difficulty. Vessels, with drafts of 7 to 10m, can reach the port by making use of the high tides and navigating with caution.

The roadstead off the port can handle large vessels. There is a T-shaped jetty with a berth, 130m long, which has an alongside depth of 6.0m. Another T-head pier has a length of 275m along its face, with an alongside depth of 12.8m.

Dicol Oil Terminal pier is situated at Sacor. It extends from the N bank of the river, 1 mile N of Ilheu dos Passaros. It is reported (1990) that vessels up to 140m in length and 7.3m draft can be accommodated.

Bissau to Bolama

11.23 The port of Bolama can be reached from Canal do Geba via Canal de Pedro Alvares, Canal de Bolama, and Canal de Bolola. The latter two channels are deep. The port can also be reached from the S via Canal de Orango and Canal de Canhabaque.

Tides—Currents.—Tides at Bolama rise 5.2m at springs and 4.3m at neaps.

The tidal currents normally follow the direction of the channels. They attain rates up to 4 knots at springs, but do not exceed 3 knots at neaps. Slack water generally occurs up to 1 hours 30 minutes after HW or LW at Bolama.

When crossing Canal do Geba in order to enter or leave Canal de Pedro Alvares, full allowance should be given to the tidal currents which set almost at right angles to the course of the vessel.

To take advantage of the tidal currents, a vessel proceeding from Bissau to Bolama, or vice versa, should arrange to pass

Restinga de Areia Branca (off the S side of Ilha Bolama) at LW; this occurs about 20 minutes after LW at Bolama.

There are numerous tide rips and patches of discolored water within the channels leading from Bissau to Bolama, and their positions vary with the state of the tide. They do not necessarily indicate dangers to navigation and are nearly always caused by sudden changes of depth.

The principal difficulty in navigating Canal de Pedro Alvares may be said to arise from the channel being so completely sheltered that the banks on either side seldom break.

A bar, with a least depth of 7m, extends across the N part of Canal de Pedro Alvares.

Coroa das Areias, lying on the E side of the channel, shoals abruptly and has a depth of 4.3m at its S extremity and a depth of 2.7m at its W edge.

A shoal, with a least depth of 4.6m, extends up to 3.2 miles SE of Pedro Alvares Light.

Restinga da Areia Branca, a sand spit with scattered sunken rocks lying on it, extends up to 3 miles S of Ponta da Areia Branca, the S extremity of Ilha Bolama.

Baixo Mau, lying on the NW side of Canal de Bolola, dries in its central part. The E part of this shoal has a least depth of 1.5m, which lies 1.5 miles SSE of Ponta do Preco Leve.

Aspect.—Ilha das Areias and Ilheu do Mancebo, with a conspicuous tree standing on it, lie 6.5 miles NE and 11 miles ENE, respectively, of Pedro Alvares Light (11°38'N., 15°42'W.).

A lighted buoy, moored about 2.5 miles S of Ponta da Areia Branca, marks Restinga da Areia Branca.

Anchorage.—Anchorage is good in most parts of Canal de Pedro Alvares, though there are some deep holes and shallow spots. When any of the fierce squalls, which are common along this coast, are seen approaching, vessels should anchor immediately.

Baia das Prainhas, lying on the SW side of Ilha Bolama, affords good temporary anchorage, in depths of 14 to 24m, sand and mud, about 2 miles SE of Ponta Oeste. The tidal currents are not felt at this roadstead, but it must be approached with caution as the depths shoal rapidly.

Caution.—Deep-draft vessels should pass through Canal de Pedro Alvares at mid-tide.

The channel in the vicinity of Ilha das Galinhas, due to changed depths, was reported dangerous to navigation (1975).

Due caution should be taken when the ebb tidal current sets strongly towards Baixo Mau.

Bolama (11°35'N., 15°28'W.), a small port, is situated on the E side of Ilha Bolama. The town, which is fronted by a shallow pier, stands on the site of Port Beaver which was originally formed in 1792. Anchorage can be taken, in a depth of 24m, mud and broken shells, about 0.2 mile off the town. It is reported that this roadstead is only used by local coasters.

11.24 South approach.—The S approach to Bissau and Bolama is via Canal de Orango and Canal de Canhabaque. Vessels then proceed through Canal de Bolola to Bolama, or through Canal de Bolama and Canal de Pedro Alvares to Canal do Geba and Bissau.

Tides—Currents.—The flood tidal currents in Canal de Orango and Canal de Canhabaque set NE; the ebb currents set

SW. Off the mouth of Canal de Orango, the current lasts for 6 hours in each direction. The flood current is reported to set strongly on South Breakers and attain a rate of 1.5 knots in the channel. The ebb current is reported to rarely exceed a rate of 2.5 knots, except after heavy freshets.

11.25 Canal de Orango (11°00'N., 15°49'W.) is about 13 miles wide at its entrance, which lies between South Breaker (10°41'N., 16°08'W.) and a shoal extending 12 miles SW of Ilheu do Poilao (10°52'N., 15°43'W.). The fairway channel has general depths of 12 to 37m, but shoals and reefs lie on both sides of it and reduce the width to about 4 miles between Baixo Branco and Cavalos Spit.

South Breaker, with a least depth of 1.8m, lies 26 miles SW of Ponta Camaleao, the SE extremity of Orangozinho Island. The sea breaks heavily over this shoal bank. A patch, with a depth of 3.7m, is reported (1942) to lie about 16 miles WNW of South Breaker. Another patch, with a depth of 8.7m, is reported (1957) to lie about 9.5 miles SW of South Breaker. A patch, with a depth of 11m and marked by breakers, is reported to lie about 8 miles E of South Breaker.

South Breaker should be given a wide berth as numerous detached rocks and shoals lie in its vicinity.

Orango Reef and Cameleon Reef always break heavily and extend up to 10 miles SSW of Ponta Camaleao. Orango Reef is rather steep-to on its E side and the tidal currents set sharply around and across it. Vessels should use caution when near this reef.

Ilheu do Poilao (10°52'N., 15°44'W.), the S island of the Joao Viera Group (Jamber Group), is thickly wooded and dominated by tall trees. A light is shown from a conspicuous framework tower standing on the summit of this island.

Bicho Bank extends about 5 miles NW of the island. Ilha do Mel, with a prominent white cliff, lies 7 miles N of Ilheu do Poilao. Ilheus dos Cavalos and Ilha Joao Vieira lie 9 miles N and 11 miles NNE, respectively, of Ilheu do Poilao and are separated by Jamber Pass. Cavalos Spit, which dries and generally breaks, extends up to 2.1 miles N of Ilheus dos Cavalos. Two rocky patches, with depths of 3.7 and 5.5m, lie 0.5 mile off the W side of this spit.

Baixo Branco, with a least depth of 2.1m and steep-to, lies 4.5 miles ENE of Ponta Camaleao Light. A patch, with a depth of 9.1m, lies near mid-channel, about 3.5 miles E of Baixo Branco.

In many places, the edges of the banks and shoals are steep-to and may be approached with caution.

Caution.—Vessels approaching Canal de Orango from the N or the W should give a berth of at least 10 miles to the foul ground which extends W of Arquipelago dos Bijagos. This may be done by keeping in depths of not less than 37m until reaching a position about 20 miles SW of South Breaker. Vessels may then proceed to the E and then to the N in order to enter the channel.

Vessels approaching from the S should pass W of the shoals which extend up to 10 miles SW of Ilheu do Poilao. Care must be taken to avoid the heavy breakers which occur in a position about 8 miles E of South Breaker.

Careful attention should be paid to the tidal currents and soundings when proceeding through the channel; a sharp look-out should be kept for ripples or discolored water.

11.26 Canal de Canhabaque (11°14'N., 15°37'W.), a continuation of Canal de Orango, extends 23 miles N and NNE to the junction of Canal de Bolama and Canal de Bolola. It has considerable depths within the fairway.

Ilha Roxa (11°10'N., 15°47'W.) lies on the W side of the channel and is marked on its E side by a light. The reefs fringing the island are marked by beacons.

Baixos de Oliviera Muzanty, lying on the E side of the channel, is formed by a succession of drying banks, with narrow and deep channels between them. These drying banks extend 13 miles NNE from the N end of Ilha Joao Vieira and are steep-to on their W sides.

Ponta Tombali (11°20'N., 15°30'W.) is the SW extremity of Ilha dos Escravos. A shoal, with a least depth of 4.5m, lies about 3.5 miles NW of this point. Baixos da Honra do Monteiro, on which there is a drying sandbank, extends up to 3 miles offshore, 6 miles N of the point.

Canal de Bubaque, entered between Ilha de Orangozinho and Ilha Roxa, extends in a general N direction for 22 miles. It then joins Canal de Galinhas which leads into Canal de Bolama.

Canal do Fundao separates Ilha de Bubaque from Ilha de Rubane. The village of Bubaque stands on the N side of the former island. A light and a radio mast are situated near this village. Anchorage can be taken, in a depth of 30m, about 0.3 mile E of the light, but the tidal currents run strongly through the channel.

Estuary of the Rio Geba to the Rio Nunez

11.27 The coast between Ponta Tombali (11°20'N., 15°30'W.) and the entrance of the Rio Cacine, 28 miles SE, is little known. Shoals and breakers, which may be separated by narrow channels, extend over 10 miles from the shore and the coast is so low that it is seldom seen by vessels bound for Canal de Orango.

The Rio Tombali, which enters the sea close S of Ponta Tombali, is reported to have a depth of 3m on its bar.

Several groups of shoals, which have depths of 2 to 9m and are separated from each other by comparatively greater depths, lie between Ilheu do Poilao and Recifs Alcatraz, 24 miles SE.

Recifs Alcatraz (Alcatraz Reef) (10°35'N., 15°25'W.), an extensive reef, has general depths of 5m and dries in places. Rocher Alcatraz, 12m high, is a volcanic rock which stands on the NE extremity of this reef. Ile du Naufrage (Wreck Island) is low and lies 1 mile SW of Rocher Alcatraz. Rocher Spitfire (Spitfire Rock), with a depth of 1.8m, lies about 1.5 miles SE of Rocher Alcatraz.

Anchorage can be taken by small vessels, in a depth of 11m, about 0.7 mile E of Ile du Naufrage, but local knowledge is required.

The **Rio Cacine** (11°02'N., 15°09'W.) is entered between Ilha de Melo (Mello Island) (10°59'N., 15°17'W.) and Ponta Cassumba, the W extremity of Ilha Cataque, 3.7 miles ESE.

The river is navigable by vessels up to 1.8m draft, but its immediate approaches are encumbered by numerous sand banks and islets. The factories of Bicaise and Cacine stand on the S bank of the river, 11 miles above Ponta Cassumba. Shallow draft vessels can anchor off these factories, but landing is difficult at LW due to the mud bank that fringes the shore. In

the vicinity of the river, the countryside is rich in timber. Vessels intending to enter this river should anchor near Rocher Alcatraz and try to obtain a local pilot. The best time to enter is at LW when the banks are visible; it is reported that this river cannot be approached with SW winds.

The **Rio Casset** (Kasset River) (10°54'N., 15°08'W.) flows into the sea, 8 miles SSE of the entrance to the Rio Cacine. This river is merely an arm of the sea with passages leading between Iles Tristao, a group of islands, of which Ile Aube is the westernmost.

The boundary between Guinea-Bissau and Guinea lies in the vicinity of the entrance to this river.

The **Rio Compony** (10°49'N., 14°51'W.) flows into the sea 27 miles ENE of Recifs Alcatraz. This river can be ascended for a considerable distance but numerous banks and shoals encumber the entrance and it is of no commercial importance. A rocky barrier extends across the river, 10 miles above the entrance. Above this barrier, the river narrows, but presents no difficulty for small vessels as far as the village of Kandiafara, 25 miles upstream. Local knowledge is required. Anchorage can be taken, in a depth of 10m, sand and pebbles, good holding ground, in mid-channel about 0.5 mile below the rocky barrier.

The Rio Nunez (Kamsar) (10°30'N., 14°44'W.)

World Port Index No. 45850

11.28 The Rio Nunez (Fleuve Tinguillinta), the most important navigable waterway in Guinea, has been traced to its source about 50 miles above its entrance. This river provides access to the important bauxite port of Kamsar, formerly known as Port Kakande.

Pointe Kembuto (10°38'N., 14°42'W.), the N entrance point of the river, is high, thickly wooded, and appears detached from the adjoining land. Pointe Malouine, located 5.5 miles NE of the point, can be identified by two large cotton trees standing near it.

Ile Gonzalez (10°28'N., 14°39'W.), the S entrance point of the river, is located 8.5 miles SSE of Pointe Kembuto. It is wooded and prominent. Rochers de Gonzalez, a drying rocky shoal, lies 4 miles SSW of Ile Gonzalez. A light is shown from a tower standing on this shoal. A racon is situated at the light.

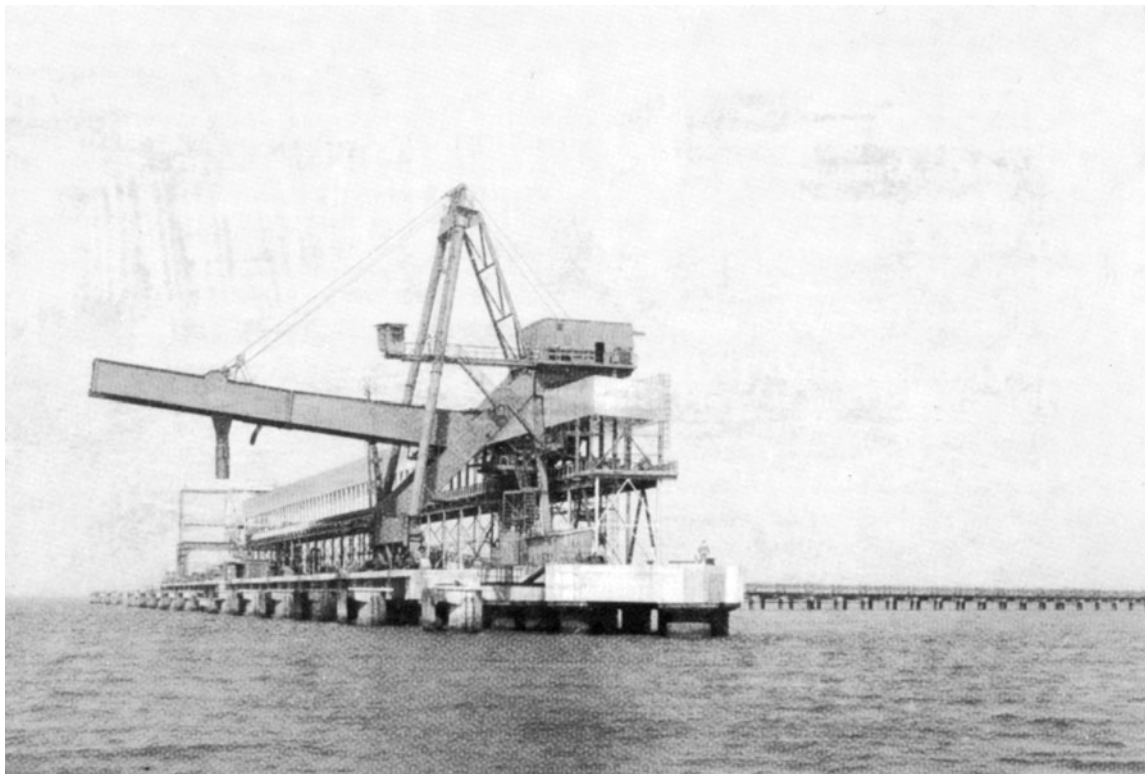
A conspicuous stranded wreck is reported to lie close N of the light.

The coast between Ile Gonzalez and Pointe de Dapiar, 6 miles N, is covered with large trees, and like all of this part of the coast, surrounded by a belt of mangroves.

Winds—Weather.—Kamsar has a typically tropical climate which is hot, humid, and characterized by two separate seasons. Rain falls mostly at night and heavy rains fall in July and August. The rainy season commences in May and ends in October. At this time, the winds are variable, force 3 to 6, between the S and W.

There is the possibility of a tornado from the N or NE when winds reach force 10, but for only a short period of time. During the dry season, there are light breezes from the SW to W.

Fog often occurs along the coast, particularly during the dry season.



Bauxite loading wharf and jetty at the Rio Nunez (Kamsar)

Tides—Currents.—Tides at Kamsar rise 5.2m at springs and 4m at neaps.

The tidal currents at the entrance to the river set between NNE and NE on the flood and in the opposite direction on the ebb; they usually attain rates up to 3 knots. It was reported (1982) that the currents attained a rate of 6 knots during the rainy season at springs.

Off Pointe Malouine, the flood current sets NNE and attains a rate of 2.7 knots at springs; the ebb current sets SSW and attains a rate of 2.5 knots at springs.

The water of the Rio Nunez is brackish, with specific gravity varying between 1.013 in the rainy season and 1.028 in the dry season at HW.

Bancs Compony, consisting of above and below-water rocks, extends up to 28 miles SW of Pointe Tristao (10°48'N., 14°59'W.), the S extremity of Ile Aube. A patch, with a depth of 9.4m, lies about 8 miles WSW of the SW end of Bancs Compony. Recif Conflict (Conflict Reef), consisting of numerous drying reefs and shoals, forms the SE part of Bancs Compony.

La Tete de Roche (Rocky Head), a dangerous shoal with a least depth of 1.6m, lies 5 miles S of Bancs Compony; depths of less than 9m extend up to 7 miles WSW of it. La Tete de Roche consists of ridges which cause cross currents and discoloration of the water at the surface. Vessels should not pass between La Tete de Roche and Recif Conflict.

Recif Verga, with a depth of 5.5m, lies in the S approach to the river and extends up to 9 miles W of Cap Verga (10°13'N., 14°27'W.).

Depths of 8 to 9m lie up to 19 miles W and 14.5 miles SW of Cap Verga.

A patch, with a depth of 3.6m, and another, with a depth of 9.1m, lie about 11 miles and 13 miles SSE, respectively, off Cap Verga. A dangerous wreck is reported to lie in an approximate position about 28 miles WSW of Cap Verga.

Plateau de Gonzalez is a dangerous flat which partly dries. It extends up to 4.3 miles SSW of Ile Gonzalez. Rochers de Gonzalez, lying at the S extremity of this flat, dries 2.4m. With a fresh breeze, breakers are generally seen to the N and S of these dangers.

Depths of 7.9m and 9.8m lie about 10.5 and 12 miles SSW, respectively, of Rochers de Gonzalez.

The coastal bank, with depths of less than 5m, extends up to 2.3 miles offshore between Ile Gonzalez and Pointe de Dapiar. It dries 1.8m near the outer limit, about 2.5 miles SW of Pointe de Dapiar.

Ile de Sable (Sand Island) lies in the middle of the river, 3.5 miles N of Pointe de Dapiar. It is covered at HW and a drying bank extends SW of it to abreast of Pointe de Dapiar.

Depths—Limitations.—A dredged channel, 120m wide, extends for 9.3 miles and leads to the loading wharf at Kamsar. This channel is dredged to a depth of 9m in its seaward section and to depths of 8.5m and 8.2m in its inner sections. A turning basin, lying off the loading wharf, is dredged to a depth 7.7m.

The loading wharf is connected to the E shore by a jetty, almost 1 mile long. It is 260m long and has a dredged depth of 13.5m alongside.

Vessels up to 229m in length and 13m draft can be handled at the wharf. However, vessels are limited in size by the river.

Vessels entering the river are generally restricted to a maximum draft of 10m, a maximum length of 220m, and a maximum displacement of 45,000 grt. Freeboard is also restricted to 13.7m when the use of shore side loaders is intended.

Two small piers, with depths of 3.5m alongside, are situated 0.3 mile N of the root of the jetty and can handle vessels up to 100m in length. It is reported that vessels may safely touch the bottom here at LW.

Aspect.—The approaches to the Rio Nunez are marked by lighted buoys.

Lighted Buoy No. 2 is moored about 46 miles WSW of Ile Gonzalez Light.

Lighted Buoy No. 3 is moored about 34 miles SW of Ile Gonzalez Light and is equipped with a racon.

Lighted Buoy No. 4, Lighted Buoy No. 5, and Lighted Buoy No. 6 are moored about 23 miles SW, 12 miles WSW, and 6 miles WNW, respectively, of Ile Gonzalez Light. These lighted buoys mark the N side of the approach channel.

Lighted Buoy No. 7 is moored about 3 miles W of Ile Gonzalez Light.

Cap Verga (Cap Koundide) (10°13'N., 14°27'W.) is located 20 miles SE of Ile Gonzalez and is very conspicuous. This cape cannot be mistaken, for unlike all the adjacent coast, it rises abruptly to a considerable height.

A main light (Cap Verga) is shown from a framework tower, 10m high, standing 3 miles N of the cape. A radiobeacon is situated at the light.

An aeronautical radiobeacon is situated about 1.5 miles NE of Kamsar.

The dredged fairway channel leading to the loading wharf is marked by lighted buoys.

Pilotage.—Vessels must anchor and await the pilot and various authorities in the area lying between latitudes 10°26'N and 10°28'N and longitudes 14°44'W and 14°46'W. Vessels cannot proceed beyond latitude 10°28'N before being boarded.

Pilotage is compulsory for all vessels over 45m in length. Vessels under 45m in length will also be required to have a pilot onboard on their first call, but may be exempt thereafter by consent of the Port Director.

Vessels must send an ETA, at noon ship's time, 7 days, 5 days, 3 days, and 1 day in advance through Kamsar or Conakry. On approaching the river, vessels must contact the pilot on VHF channel 16.

When weather conditions prevent the pilot from going on board in the above-mentioned area, vessels may follow the pilot boat into the channel until the weather permits boarding.

Anchorage.—Vessels awaiting a berth at the loading wharf can also anchor within the turning basin.

Directions.—The recommended track for vessels proceeding to the Rio Nunez commences about 60 miles W of the entrance to the Rio Geba and leads SSE and SE to a position about 80 miles ESE of La Tete de Rochein (10°04'N., 16°36'W.). It then leads E, passing S of La Tete de Roche, and NNE towards the pilot station.

Caution.—Care must be taken to avoid Recif Verga and the off-lying shoals to the S, SW, and W of Cap Verga.

Visibility in this region is always poor, except after a thunderous squall when it is excellent for about 24 hours. Access to the Rio Nunez is therefore difficult.

Several wrecks, some dangerous, lie in the approaches to the river and may best be seen on the chart.

11.29 Victoria (10°50'N., 14°33'W.) (World Port Index No. 45845), a village, is situated 12 miles above Kamsar. A few factories are situated here. Anchorage can be taken, in a depth of 3.7m, about 0.4 mile S of the village. Anchorage can also be taken, in a depth of 7m, about 0.7 mile S of the village.

Above Victoria, the river becomes sinuous and narrows considerably.

Bel Air, a village, stands on the N bank of the river, 9 miles above Victoria, and is fronted by a stone wharf used by small craft. An important factory is situated here and vessels up to 2,000 grt can reach it. Anchorage can be taken, in depths of 7 to 8m, off the stone wharf.

Boke (10°56'N., 14°18'W.) is situated at the head of navigation 40 miles above Kamsar. It is the principal town on the river and, next to Conakry, is the chief commercial center of Guinea. The river narrows to a width of about 100m here and has a depth of 1m.

The Rio Nunez to Iles de Los

11.30 The coast from Cap Verga to Conakry, 60 miles SE, resumes its low and swampy character. The principal rivers along this stretch of the coast are the Rio Pongo, the Konkoure River, and the Rio Soumba which are only accessible to small coastal vessels. The coast in the vicinity of the entrances to these rivers changes shape and is reported to be extending seaward. The depths of the entrance channels change constantly and the latest information should be obtained from the harbor master at Conakry.

The coastal bank, with depths of less than 5m, lies from 3 to 9 miles offshore between Cap Verga and the entrance to the Soumba. A patch, with a depth of 3.6m, lies about 11 miles SSE of Cap Verga. The bottom extending up to about 15 miles offshore consists mostly of black or gray mud, or sand and mud mixed with shells; farther seaward, it consists of mostly sand mixed with shells or gravel.

The Rio Pongo

11.31 The mouth of the **Rio Pongo** (Riviere Fatala) (10°03'N., 14°04'W.) consists of a delta which is divided into six branches. The principal branches are Barre de Vase (Mud Bar entrance) and Barre de Sable (Sand Bar entrance), which are both accessible to vessels of light draft. Farther SE, lies Barre de Taboriya, which is only accessible by boats. During the rainy season, this river overflows its banks.

Mont Beta (Mont Mahounde), 174m high, stands 6 miles NE of the entrance to Barre de Sable and is conspicuous. Its summit is formed by a truncated cone with gently sloping sides.

Tides—Currents.—Off the Rio Pongo during October and November, the current has been observed to set NE and E for several days in succession.

Within Barre de Vase, the flood current sets NE and the ebb current sets SSW. Within Barre de Sable, the flood current sets NNE across the channel and the ebb current sets SW, sweeping obliquely towards the banks on the S side of the channel. The tidal currents vary, but attain rates of 1.5 to 3 knots after heavy rains.

Depths—Limitations.—Barre de Vase leads across an extensive bar which is marked by breakers. It then passes between Pointe Goro (Coro) (10°07'N., 14°11'W.) and Pointe Jily, 1 mile SE. The bar can be crossed by vessels with drafts of less than 4m. This channel is the most convenient for such vessels. It is narrow, but the muddy bottom causes no damage to grounding vessels. The channel then leads 7 miles NE to its junction with Crique Kissing and Marigot de Avisos, which in turn lead into the main fairway of the Rio Pongo. Crique Kissing is available to vessels with drafts up to 2.4m. Marigot de Avisos is somewhat deeper, but the bends are sharper and it is fronted by a large drying sand bank at the E end.

Barre de Sable leads between Pointe Observation (10°04'N., 14°05'W.) and Pointe Marara, 1 mile SE. Numerous shallow places on the bar give it the appearance of a continual line of breakers. This channel is narrow and constantly changes, but with the aid of a local pilot, vessels with drafts up to 5m can cross the bar at HW. This entrance, although difficult to navigate, is the only one reported to be used by commercial vessels as it is the shortest route to the factories situated along the river. Onshore winds may sometimes cause a heavy sea within this channel.

Boffa (10°10'N., 14°02'W.) lies about 7 miles above the entrance. Several factories are situated here and the town is fronted by a wharf. Small vessels may anchor off the town.

Pilotage.—Pilotage is necessary for vessels using Barre de Sable; pilots can be obtained at Conakry.

Baie de Sangareya

11.32 Baie de Sangareya (Baie de Sangarea) (°40'N., 13°42'W.) is completely encumbered by shoals which have depths of less than 5m. Extensive shoal banks and flats also extend from each side of the bay. A channel, with a depth of 2m, leads between them.

The bottom off the bay in the outer approaches consists mainly of sand with occasional patches of broken shells and stones. In the inner part, the bottom consists of soft blue mud, and in places, the water is very muddy at the surface.

This bay provides access, for small coastal vessels with local knowledge, to the port of Dubreka, lying on the Rio Soumba (Riviere Dubreka), or to the Konkoure River, via Bouramaya Channel.

Depths—Limitations.—The Rio Soumba is entered at the NE side of the bay. It can be navigated at HW by vessels with drafts up to 3.5m as far as Dubreka, situated about 6 miles above the entrance.

Bouramaya Channel, entered at the N side of the bay, leads into the Konkoure River. Vessels up to 3m draft can ascend to Konkoure, situated 20 miles above the mouth of the channel. Upstream of this village, the river is obstructed by rapids.

Aspect.—The most conspicuous objects seen when approaching Baie de Sangareya are Mamelles Soumba, 575m high, and Mont Kakoulima, 1,007m high, standing 12 miles NNW and 5 miles ESE, respectively, of Dubreka. The latter mountain, which is the highest in the locality, has steep and regular slopes; it is clearly visible during the rainy season, but is often obscured by mist during the dry season.

The N shore of the bay is formed by Ile Khonibombe, which is low and wooded. The prominent village of Kandian stands on the SE point of this island.

Pilotage.—Pilots can be obtained at Conakry. Local knowledge is required.

Iles de Los

11.33 Iles de Los (Ile de Loos) lie on the S side of the approach to Baie de Sangarea and consist of four large islands and three small ones. The large islands are Ile Tombo, Ile Tamara, Ile Kassa, and Ile Roume. The three small islands are Ile de Corail, Ile Blanche, and Ilot Cabri.

Iles de Los are a continuation to the WSW of Presqu'île de Camayenne. Ile Tombo, occupied by the city of Conakry, lies close SW of the SW extremity of Presqu'île de Camayenne and is separated from it by a narrow, rocky passage crossed by two causeways.

Tides—Currents.—On the E coast of Ile Kassa, the flood tidal current sets N and the ebb tidal current sets S. At Ile Roume, the flood current sets NE and the ebb current sets SW. These currents attain rates of 1.5 to 2.3 knots at springs and 0.5 to 1.2 at neaps. They change at the time of HW and LW at Conakry.

Caution.—Local magnetic anomalies exist in the vicinity of Iles de Los. Deflections up to 6° have been observed when approaching Ile Tombo and up to 3° in the vicinity of Ile Tamara.

11.34 Ile Tamara (9°30'N., 13°49'W.), the W and largest island of the group, is formed by a range of thickly-wooded hills. Sommet Ballay, 166m high and the highest hill, stands at the N end of the island and may be seen from up to 20 miles seaward in clear weather. From the N or S, the island sometimes appears to be split in two. Its N and E sides are mostly fronted by shoals.

Pointe de l'Arethuse, the N extremity, is marked by a prominent beacon. Recifs l'Arethuse, with depths of less than 5m, extends up to 1.6 miles NE of this point. Roches de l'Ardent, lying 1.7 miles N of the point, consists of two rocks, about 0.3 mile apart. These rocks have a least depth of 3m and do not break; however, there is generally a heavy swell over them. A patch, with a depth of 5.2m, existence doubtful, is reported to lie about 1.3 miles NW the point.

Pointe du Hunier, the S extremity of the island, has an islet lying close S of it and a group of three small rocks lying 0.3 mile E of it. Ile Fousset, which dries 4.8m, and Ile Poulet, which dries 3.8m, lie 0.5 mile ENE and 0.6 mile NE, respectively, of the point and are joined to it by an area of foul ground.

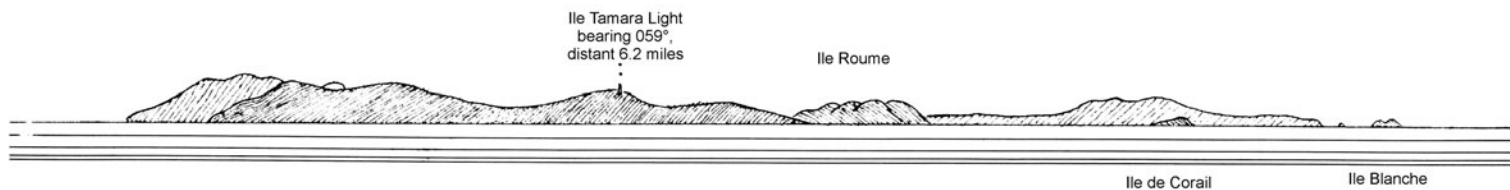
A main light (Ile Tamara) is shown from a conspicuous tower, 6m high, standing on the S end of a hill, 0.5 mile NNW of Pointe du Hunier.

A roadstead anchorage lies at the E side of the island, 0.3 mile E of the light. In the past, bauxite was loaded here.

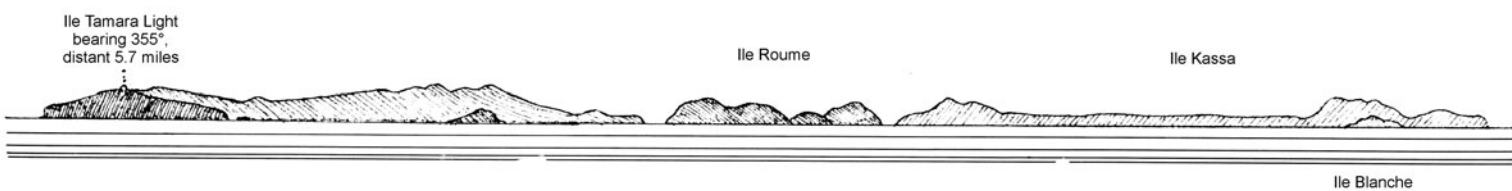
Ile de Corail, 30m high, lies 1 mile SE of Pointe de Hunier. A rock, with a depth of 1.7m, lies 0.2 mile SE of this small island.

Caution.—Due to the existence of submarine cables, an anchoring prohibited area, the limits of which are shown on the chart, extends between Ile Tamara and Ile Kassa.

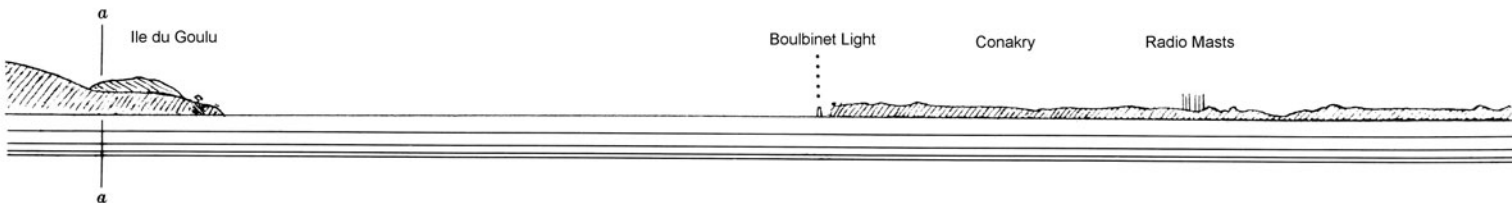
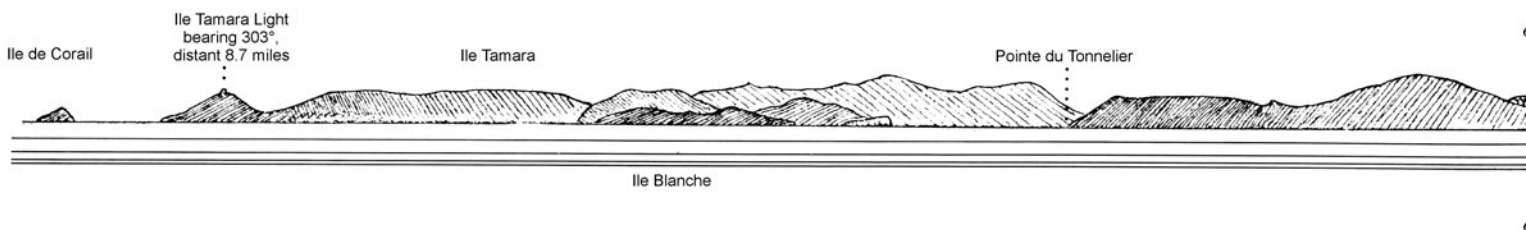
11.35 Ile Roume (9°28'N., 13°48'W.), lying midway between Ile Tamara and Ile Kassa, has several rocky hills. Som-



Iles de Los from SW



Iles de Los from S



Iles de Los, in two parts, from SW

met Mady, 80m high and the highest hill, stands on the W side of the island. Ile Souride lies close off the N side of the W part of Ile Roume and is connected to it by rocky ledges that cover at HW. Ile de la Bouteille, 3m high, lies close off the SE part of Ile Roume.

Banc Crawford, which dries in places, almost completely obstructs the passage between the N side of Ile Roume and the N end of Ile Kassa.

Ile Kassa (9°29'N., 13°45'W.), the E island of Iles de Los, is narrow and formed by a range of densely wooded hills. Sommet Souroguia, 111m high, and Sommet Horace, 103m high, stand close together, at the N end of the island. Sommet Kouroumandja, 110m high, stand 1.3 miles N of Pointe du Tonnelier, the S extremity of the island. From the S, the first two summits appear isolated from Sommet Kouroumandja.

Pointe de l'Almarante, the N extremity of the island, shelters a small boat harbor. A dangerous wreck lies about 0.8 mile W of the point.

The E coast of Ile Kassa is fronted by a bank, with depths of less than 5m, which extends up to 0.5 mile offshore.

Pointe du Mat is located midway along the E coast of the island. Several conspicuous abandoned bauxite installations stand near this point. A disused jetty, in a dilapidated condition, extends E and SE from the vicinity of the point and has a depth of 10m alongside.

Ile du Goulou, marked by a disused light tower, lies 1 mile S of Pointe du Mat and is connected to the island by a drying reef. An isolated patch, with a depth of 6.8m, lies about 0.5 mile ENE of this islet.

Pointe du Tonnelier, the S extremity of Ile Kassa, is marked by a beacon. Ilot Cabri, 5m high, and Ile Blanche, 23m high, are wooded and separated from each other by a narrow strip of foul ground. They extend up to 1 mile SW of Pointe du Tonnelier and are separated from the SW end of Ile Kassa by a passage, 0.3 mile wide. A rocky shoal, with a depth of 6.4m, lies about 0.6 mile WSW of the SW extremity of Ile Blanche and another shoal, with a depth of 5.2m, lies midway between it and the island.

Recif du Tonnelier, which dries 1.9m, lies 0.5 mile E of Pointe du Tonnelier; a patch, with a depth of 5.2m, lies about 0.2 mile farther ENE.

Caution.—Ile Kassa has been reported to lie almost 0.2 mile W of its charted position.

Conakry (9°31'N., 13°43'W.)

World Port Index No. 45855

11.36 The city of Conakry completely occupies Ile Tombo, which is flat, wooded, and almost entirely bordered by rocky ledges. The main part of the port fronts the NW side of the island; Anse du Dragonnier, used by small coasters, fronts the SW side of the island.

The main part of the port is formed by a natural basin which extends parallel to the NW side of the island. It is sheltered to the N and NW by Banc de la Prudente and to the W and SW by Iles de Los. The harbor is also sheltered by two detached breakwaters which lie parallel to the NW side of the island.

Tides—Currents.—Tides rise 3.7m at springs and 2.8m at neaps.

The tidal currents are irregular. With tidal ranges greater than 2.5m, the flood current runs from 2 hours to 4 hours 15 minutes after LW. It sets N, up to 2 knots, in the entrance and NE, up to 2.3 knots, within the harbor. The ebb current runs from 1 hour 15 minutes to 4 hours 15 minutes after HW. It sets S, up to 2.3 knots, in the entrance and SW, up to 1.5 knots, within the harbor.

Depths—Limitations.—Passe du Nord, leading between Roches de L'Ardent and Pointe de L'Arethuse, is no longer used due to reduced depths.

Grande Passe, the main fairway, passes S and E of Ile Kassa and is the normal access to the port. It was reported (1998) to be dredged to a depth of 9.7m. A depth of 6.1m was reported (1994) to lie in the vicinity of Buoy No. 9, while a depth of 6.6m lies in the vicinity of Buoy No. 8.

Berth No. 0 and No. 1, mostly used for alumina, have 350m of total berthing space with depths of 9 to 10 alongside.

Berth No. 2, Berth No. 3, Berth No. 4, and Berth No. 5, mostly used for general cargo, have a total length of 450m, with alongside depths of 6 to 8.5m.

Berth No. 6 has depths of 2 to 7m alongside and is used by fishing vessels and small craft.

Berth No. 7, mostly used by fruit vessels, is 140m long and has a depth of 7m alongside.

Berth No. 8 and Berth No. 9, mostly used for minerals and petroleum, have 300m of total berthing space with a depth of 11m alongside.

Berth No. 10 is 190m long and has a depth of 10m alongside. It is used by petroleum vessels.

The container quay is 270m long, with a depth of 10.5m alongside.

Generally, vessels up to 220m in length and 9.8m draft can be accommodated in the port.

Aspect.—A main light (Boulbinet) is shown from a prominent tower standing on the reef which fronts the SW side of the city.

Conspicuous landmarks, which can be seen above the numerous trees, include the cathedral tower, 52m high, standing 0.5 mile NE of the main light; a high-rise building standing close NW of the cathedral; a hotel standing close NNE of the main light; four radio masts, marked by obstruction lights, standing 1 mile E of the cathedral; and the four minarets of a mosque standing 0.5 mile NE of the causeways.

An aeronautical radiobeacon is situated 2.3 miles NE of the city, on the SE side of the mainland.

An outer approach lighted buoy is moored about 3 miles SSW of the city. The dredged fairway channel leading to the main harbor is marked by lighted buoys.

Pilotage.—Pilotage is compulsory for vessels over 20m in length. Pilots can be contacted on VHF channel 10, 13, 14, or 16 and board in the vicinity of the entrance to the dredged channel, 2.5 miles SSW of the city. Vessels should send an ETA via Kamsar Radio or S Lys (FFL, FFS, or FFT).

It has been reported (1995) that the pilot boards inbound vessels abeam of the container terminal and that pilotage is available during daylight hours only.

Anchorage.—Anchorage can be taken, in a depth of 9m, within an area on the W side of the channel, lying 0.5 mile W of the main light. There is room for two vessels here, but they

must remain clear of the access channel. During spring tides, the current here is strong.

A preferable and more sheltered anchorage is in a depth of about 7.3m, with the head of the pier at Pointe du Mat (Ile Kassa) bearing 250°, distant about 0.8 mile.

Caution.—It is reported (1990) that pilferage is a major problem at this port. Large gangs of thieves have boarded vessels alongside in daylight in order to steal cargo from containers and holds.

An anchorage prohibited area, the limits of which are shown on the chart, extends between the city and Ile Kassa and up to 4.5 miles seaward along the E side of the entrance channel. Anchoring is also prohibited within the main harbor.

Dumping areas, the limits of which are shown on the chart, lie centered 1.7 miles WNW and SE of the harbor entrance.

Vessels must supply their own fenders as the quays consist of solid face concrete.

It is reported that the navigational aids are unreliable and may be extinguished, missing, or out of position.

The S detached breakwater is low; at night it is almost invisible.

Numerous small fishing vessels may be encountered in the approaches to the port.

Conakry to the Sierra Leone River

11.37 The coast between Conakry and the entrance to the Melikhouree River (Mellacore River), 34 miles SE, is very low, densely wooded, and has no distinctive features. The contrast, which this coast presents under difficult atmospheric conditions, is very noticeable.

In clear weather, Iles de Los, the high inland mountains, the tall trees along the coast, and Ile Matakong can be seen from a considerable distance. In hazy weather, only a few sections of the low coast with an indistinct opening of a river here and there can be made out.

Within the extensive bight lying between Conakry and Ile Matakong, 21 miles SE, there are no isolated dangers and good anchorage may be obtained. The bottom is composed of mostly mud, except on some of the shoals at the entrance to the Morebaya.

The Soumbouyae River (Sarinka River), the Morebayae River, and the Forecariah River (Riviere Forecariah) are only frequented by local coastal vessels. Other vessels bound for these rivers should first call at Conakry to obtain the latest information about the river depths. The ebb currents in these rivers are reported to be very strong.

The Soumbouya, entered about midway between Conakry and Ile Matakong, is reported to be accessible to vessels with drafts of less than 3m as far as Fallikouri, 16 miles above the entrance.

The Morebayae River, entered 7.5 miles N of Ile Matakong, has only been surveyed for about 7 miles above its entrance. The channel leading across the bar, 5 miles WSW of the E entrance point, has a least depth of 0.9m. The shoal banks, lying on either side of the entrance, dry in places and those on the S side always break. Above the entrance, there are depths in mid-channel of not less than 5.5m as far as the survey extends, except for a bank, with a least depth of 3.7m, which

extends into mid-channel from the E bank, 4.5 miles above the entrance.

The Forecariah River, entered 5 miles E of Ile Matakong, is barred about 2 miles within its entrance by rocks. The mouth of this river is obstructed by a shoal flat which has a least depth of 1.2m in the fairway. This flat extends from Ile Matakong to the entrance of the Melikhoure, 10 miles SSE.

Ile Matakong (Matakong Island) (9°17'N., 13°25'W.), which lies 7 miles SW of the entrance to the Morebaya, rises to a gently sloping hummock covered with luxuriant vegetation. Although of only moderate elevation, this island forms a striking contrast to the low swampy mainland located NE of it. The SE part of the island is separated from the rest of it by a small stream. This part is low and covered with tall trees.

A light is shown from a tower, 12m high, standing on the summit of the island.

Ile Matakong is surrounded by reefs and mud flats so that only small shallow vessels can approach it.

11.38 The **Riviere Melikhoure** (Mellacore) (9°06'N., 13°19'W.) is entered between the S side of Ile Tana (Ile Tannah), lying 11.5 miles SE of Ile Matakong, and Pointe Sallatouk, 5.5 miles SW. Several tributaries enter this river and it provides access to the small port of Benti. The most important of these tributaries is the Tana, which flows into the N side of the river, W of Ile Tana.

The boundary between Guinea and Sierra Leone lies on the coast, about 1 mile S of Pointe Sallatouk.

The Riviere Melikhoure can be identified easier than the other rivers previously described. Pointe Sallatouk, the S entrance point, is higher than any of the adjacent coast. From seaward, this point appears as a steep promontory because of the tall mangroves covering it. Prominent beacons are situated on Pointe Sallatouk and Pointe Bellangsang, located 2.5 miles NE of the S extremity of Ile Tana.

The outer approaches are marked by Mellacore Lighted Buoy (9°05'N., 13°28'W.), which is moored about 8.5 miles W of Pointe Sallatouk. It is reported that several dangerous wrecks, with masts showing, lie about 10 miles WSW and 14 miles SW of this lighted buoy.

The entrance channel and the river fairway are marked by buoys as far as Benti. However, these buoys cannot be relied upon.

Middle Ground, an extensive flat, is composed of hard sand and dries in places. It divides the entrance of the river into two channels. North Pass, which leads between this flat and Ile Tana, is accessible only by small and shallow vessels with local knowledge.

South Pass, the principal entrance channel, leads between Middle Bank and the partially drying flats which front the SE side of the river entrance. The bar, which lies near the SW end of Middle Ground, is subject to frequent changes. A depth of 4.6m was reported (1953) to lie over this bar. Vessels with drafts up to 6.5m can reach Benti; vessels up to 6m draft can proceed up the river as far as Siguande, 7 miles above Benti; and vessels up to 2.8m draft can go as far as Maliguiagbe, 5 miles farther upstream.

11.39 **Benti** (9°10'N., 13°13'W.) (World Port Index No. 45857), a small port, is situated on the S bank of the river, 8

miles NE of Point Sallatouk. It is a center for the export of fruit and vessels call here regularly to load bananas.

Tides—Currents.—Tides at Ile Tana rise 3.9m at springs and 3.1m at neaps.

Depths—Limitations.—Two conspicuous concrete warehouses stand on the shore and are fronted by a wharf, 61m long, with depths of 11 to 12.3m alongside. Vessels berthing should swing and moor alongside the wharf headed downstream. The maximum draft of vessels reaching here depends upon the state of the sea on the bar and the tide. In good weather, vessels with drafts up to 6.5m can cross the bar at HW.

Pilotage.—Pilotage is recommended because of the frequent changes in the river channel. Pilots must be ordered in advance and are boarded at Conakry.

Anchorage.—Anchorage can be taken, in depths of 15 to 18m, mud and gravel bottom, off the wharf. The tidal currents attain rates up to 4 knots at mid-tide, but there is good holding ground and ample swinging room.

11.40 Yelibuya Sound (Skarcies Rivers) (8°53'N., 13°17'W.) is entered between Pointe Sallatouk and Ballo Point, 15.5 miles SSE. It is almost entirely filled with mud flats and shoals, and should not be navigated without local knowledge. This sound, which forms the estuary of the Skarcies Rivers, has low and wooded shores.

Yelibuya Island, located 6 miles SSE of Point Sallatouk, is low, swampy, covered with trees, and difficult to recognize. A village is situated on the S side of this island and is visible from up to 10 miles seaward. It is reported to appear as several white objects which may be mistaken for breakers.

Kortimaw Island, located 3 miles SE of Yelibuya Island, is fronted on its N and W sides by an extensive mud flat. The S side of this island is low and wooded; from the W and SW, it stands out as a clear-cut edge.

Yelibuya Sound Channel, the main entrance channel, passes between the banks which extend S of Yelibuya Island and those bordering the N and NW sides of Kortimaw Island. This channel then continues E to the entrance of the Great Skarcies River, 2.5 miles E of Kortimaw Island. The Great Skarcies River is navigable by small vessels, with drafts up to 2.7m, as far as Tawiya, 25 miles above the entrance.

Another channel, known as Direct Channel, leads between Kortimaw Island and Ballo Point, but an extensive shifting bar of sand renders access to it difficult.

The Little Skarcies River is entered S of the Great Skarcies River and is obstructed, at its entrance, by a large mud flat. This river is only navigable by small local coasting vessels. It is reported that small vessels, with drafts up to 1.8m, can go as far as the village of Mange, 25 miles above the entrance. The river is reported to be tidal for about 5 miles farther upstream. During the rainy season, the Little Skarcies River rises about 2.7m.

The coast lying between Ballo Point and the mouth of the Sierra Leone River is fronted by extensive shoals and submerged rocks. Along this section of coast, depths of 5m lie as far as 6.5 miles offshore, in places. In addition, detached, drying, and submerged rocky patches lie within 4 miles of the coast.

In order to be sure of having depths in excess of 13m, vessels are advised to remain at least 18 miles seaward of this stretch of coast.

Between Ballo Point and Leopard Island (8°41'N., 13°15'W.), the coast is formed by a sandy beach and backed by densely-wooded land. Farther S, the coast is known as Bullom Shore and it forms the N part of the entrance to the Sierra Leone River.

The Sierra Leone River

11.41 The Sierra Leone River (8°30'N., 13°10'W.) is an arm of the sea which receives the waters of several tributaries. It is entered between Leopard Island (8°41'N., 13°15'W.) and Cape Sierra Leone, 11 miles SSW. This river provides access to the ports of Freetown and Pepel.

The N shore of the river entrance, known as Bullom Shore, extends between Leopard Island and Tagrin Point, 11 miles SSE. It is mostly low-lying, but rises in places to heights up to 30m. Conspicuous red sand cliffs can be seen here and there between the trees and bushes.

The S shore of the entrance presents a striking contrast to the N shore. It consists of a peninsula which is formed by a bold, forest-clad range of mountains.

Cape Sierra Leone (8°30'N., 13°18'W.), 17m high, is the W extremity of the above range of mountains. It is covered with trees and scrub and joined to the peninsula by a narrow isthmus covered with mangroves and scrub. From a distance, the cape has the appearance of a rocky and craggy island.

A main light (Cape Sierra Leone) is shown from a prominent tower on a dwelling, 21m high, standing near the N extremity of the cape. A conspicuous water tower, marked by red obstruction lights, is situated 0.3 mile S of the light; a signal station stands close NNE of the light.

Caution.—An extensive shoal, with a least depth of 8.5m, lies about 1.2 miles WNW of the cape and is marked by a lighted buoy.

Another extensive shoal, with depths of 10m and less, extends up to 1.5 mile W of the cape.

The estuary of the Sierra Leone River is obstructed by Middle Ground, a large bank of sand. This bank has depths of less than 11m and extends up to about 8.5 miles W of the N shore. It dries in places and the sea breaks on several patches with depths of less than 1.8m.

A narrow tongue, with depths of 7.9 to 11m, extends S from Middle Ground to a position about 1 mile NW of Cape Sierra Leone. The ship channel leading between Middle Ground and the S shore has a least depth of 10.7m in the vicinity of this tongue.

O'Farrell Shoal, with a least depth of 4m, is composed of mud and sand and lies about 1.5 miles NNE of Cape Sierra Leone.

Carpenter Rock, which dries 0.9m, lies 0.7 mile WSW of Cape Sierra Leone and at the N end of a tongue of the S coastal bank. This rock can be easily distinguished by the breakers and the boiler of a wreck which lies on its S side and is visible at all stages of the tide.

A shoal patch, with a least depth of 5.5m, lies about 0.7 mile S of Carpenter Rock.

Less water than charted was reported (1983) to lie in the vicinity of a position centered 0.5 mile W of Carpenter Rock.

The passage between Carpenter Rock and Bromham Rock, lying 0.5 mile ESE, is not recommended. Even in good weather, the tide rips in this vicinity are dangerous for boats.

Cline Patches (Kline Patches), a shoal area, lies 2.5 miles WSW of Tagrin Point and 1.2 miles NE of Cline Point (Kline Point) (8°30'N., 13°12'W.). It has general depths of less than 9m and a least depth of 5.5m near the N end.

An isolated shoal area, with a least depth of 7.3m, lies about 1 mile WNW of Cline Patches and an obstruction lies 0.3 mile S of it.

It has been reported (2002) that recent surveys indicate significant shoaling in several areas of the Sierra Leone River and its approaches. Depths less than charted may be encountered.

Tides—Currents.—Tides at Freetown rise 3m at springs and 2.3m at neaps.

Inside Cape Sierra Leone, the tidal currents follow the direction of the channel. At the anchorage off Freetown and at King Tom Point, the E current commences about 5 hours before HW at Freetown and the W current commences about 1 hour after HW.

In the rainy season (June to September), the ebb currents attain rates up to 5 knots. During freshets, the start of the flood currents may be delayed until about 2 hours before HW at Freetown and may only attain a small rate.

Across the recommended track strong currents, which can attain a rate of as much as 4.5 knots, set N on the flood and S on the ebb.

At the outer end of Kissy Oil Fuel Wharf near Ardrion Point, the W current commences at, or very shortly after, the time of HW; the general direction of this current is parallel to the wharf, but it may, especially near the start, be inclined slightly inwards. Its greatest rate is reported to be 5 knots. The E current begins about 5 hours before the time of HW; its direction is less certain than that of the W current and, although generally parallel to the wharf, it may be inclined inwards or outwards by as much as 40°, especially towards the end of the period. Its greatest rate is reported to be 2.5 knots.

When within 200m of the above wharf, vessels often experience a strong offshore underwater set near the end of the W current and during the E current.

During the winter months, a cold wind blows from the Sahara and is known as the harmattan. It carries dust and sand which at times reduces visibility to 3 miles or less.

Depths—Limitations.—Vessels, with drafts of less than 11m, may generally enter the Sierra Leone River at any time. Vessels, with drafts of 11m and over, may enter during daylight hours only and at special stages of the tide.

The maximum permissible draft for entry is 11.6m plus the height of the tide above chart datum with an absolute maximum limit of 14.6m.

Aspect.—Aberdeen Hill, 62m high, stands close E of the cape and is considerably higher than the land to the E. A conspicuous hotel stands on its summit.

A radiobeacon is situated on this hill, but is frequently reported to be inoperative.

Two conspicuous radio towers stand 2 miles SE of Aberdeen Hill.

Leicester Peak, 595m high, and Sugarloaf, 760m high, are both conspicuous and stand 5 miles and 6 miles SE, respectively, of the cape.

A school is situated at Murray Town, 1.3 miles E of Aberdeen Hill. It consists of a conspicuous white building with a flat roof and extensive frontage. A conspicuous five-storied building stands on Signal Hill, 0.6 mile S of the school.

A prominent bridge stands at the entrance to Aberdeen Creek close W of the school.

An aeronautical radiobeacon is situated on the N coast 10.5 miles NE of Cape Sierra Leone. A prominent church stands in the village of Mahera, 8.3 miles NE of Cape Sierra Leone.

Pilotage.—Pilots for the Port of Freetown and the Sherbro River are stationed at Queen Elizabeth II Quay and at Kissy Oil Fuel Wharf, near Ardrion Point. Pilots for Pepel are stationed at Pepel.

Vessels can enter and leave the anchorage at Freetown without a pilot. Pilotage is compulsory for merchant vessels berthing at Queen Elizabeth II Quay and Kissy Oil Fuel Wharf, and for vessels proceeding to Pepel.

Pilots can be contacted on VHF channel 12 or 16 and usually board about 0.5 mile N of Falcon Bridge Point. On request, pilots will board vessels off Cape Sierra Leone. Vessels should send an ETA at least 24 hours prior to arrival.

Pilotage is compulsory for vessels over 20,000 dwt or 9.1m draft.

Anchorage.—Several designated anchorage berths lie N of the city of Freetown and are indicated on the chart. The instructions for anchorage should be strictly followed. The holding ground is excellent, but barnacles accumulate very quickly on the bottoms of vessels.

An emergency anchorage area, the limits of which are shown on the chart, lies centered 2 miles WNW of Cape Sierra Leone.

Anchorage for naval vessels is available in an area, 0.2 mile radius, lying centered 0.3 mile N of King Tom Point.

An explosives anchorage lies 2 miles N of Cline Point.

Caution.—A prohibited anchorage area, the limits of which are shown on the chart, lies in Cline Bay close SE of Cline Point.

A ferry crosses the river from Cline Bay to Tagrin Point.

The taking of appropriate precautions against boarding and piracy has been advised by vessels frequenting the ports of Sierra Leone or taking anchorage off the coast. Caution is also encouraged by the port authorities.

In winter, the land in the vicinity of the entrance is often covered in mist or haze and the form of the hills cannot be made out. Care is then necessary when approaching the entrance.

Vessels approaching from the W should guard against being set onto the extensive shoal banks on the N side of the entrance.

Freetown (8°30'N., 13°13'W.)

World Port Index No. 45862

11.42 The port of Freetown is a good one except for the strong tidal currents and a swell which is experienced from July to September. The city is the capital of Sierra Leone and

the seat of government. The port authority manages the harbor at Freetown and the facilities within the Sherbro River.

Depths—Limitations.—Queen Elizabeth II Quay is situated on both sides of Fourah Point. Berths 1, 1A, and 2, located SE of the point, have a total berthing length of 367m, with charted depths of 7 to 9.2m alongside. Berth No. 3 to Berth No. 6, located W of the point, have a total berthing length of 700m and charted depths of 7 to 9.1m alongside. The use of wire ropes for securing to this quay is forbidden due to the cathodic protection equipment in use at Berth No. 3, Berth No. 4, Berth No. 5, and Berth No. 6.

Kissy Oil Fuel Wharf is situated near Ardrion Point, 1.5 miles ESE of Fourah Point. It is capable of accommodating vessels up to 43,000 dwt, with a maximum length of 160m and a maximum draft of 11.2m. The berth is formed by a T-shaped jetty, with two dolphins at each end, which has a face, 73m long. Berthing is restricted to daylight hours on the flood tide.

Government Wharf, situated SW of Falcon Bridge Point, is used for the landing and loading of cargo from or into lighters.

Aspect.—The King Tom Peninsula is located 2.5 miles E of Aberdeen Hill. Several conspicuous buildings stand on this peninsula, including a large power station. A beacon stands on King Tom Point, the N extremity of the peninsula.

Falcon Bridge Point is located 1 mile E of King Tom Point. A light is shown from a metal tower, 2m high, standing on this point, and two radio masts stand close SW of it. A prominent white building, with a tank close N of it, stands 0.5 mile SSE of the light. The Parliament Building stands 0.7 mile S of the light and is prominent. Another prominent white building and the conspicuous Kennedy Building, 32m high, stand 1 mile SE of the light. The prominent State House also stands 0.4 mile S of the light.

A conspicuous large crane stands on the NE knuckle of Queen Elizabeth II Quay and a lighted range is situated on Cline Point.

11.43 Pepel (8°34'N., 13°04'W.) (World Port Index No. 45865), a loading port for the Marampa Iron Ore Mines, is situated on the S side of Pepel Island. The mines are located 52 miles inland.

Above Freetown, the navigable part of the Sierra Leone River extends in an E and NE direction for 14 miles to the port of Pepel, but is considerably obstructed by shoals. The W side of the river is formed by foul ground which extends as far as 1.5 miles offshore. The islands of Kakim, Yeliwor, and Yema lie on this area of foul ground. The E side of the river is formed by Tasso Island and the drying flats which extend S from it.

On the S shore abreast Tagrin Point, the Bunce River, which is navigable for some distance by small craft, enters the Sierra Leone River. It has depths of 4.9 to 9.1m in the fairway as far as the entrance to Hastings Creek, 3 miles SE. The navigable entrance to the Bunce River is narrowed to a width of about 300m by mud flats which extend up to 1.3 miles W of its E entrance point.

Ocean-going vessels can navigate through a dredged channel, which has a charted depth of 11.6m, as far as Pepel. This dredged channel is marked by buoys but is subject to silting.

Rocky Ledge, which dries 1.5m, lies about 1.7 miles E of Tagrin Point. It is marked by a conspicuous beacon standing

near the SE edge of the foul ground which extends from the W bank of the river. Depths of 5.5m and less lie up to 1 mile NE and 1.5 miles SW of Rocky Ledge.

Robene Point is located 3 miles SE of Tagrin Point and can be identified by some conspicuous trees standing near its extremity. The SW extremity of Tasso Island is located 3.7 miles NNE of Robene Point; drying sand banks extend up to 3 miles SSW of it.

Tasso Island is extensively cultivated and the shore consists mostly of mangroves. A narrow shoal, with a least depth of 1.5m, extends up to 1.3 miles in a NNE-SSW direction off the W side of the island. A tide gauge is situated at the S extremity of this shoal, about 1 mile SW of the SW extremity of the island.

Depths of less than 5.5m extend up to 0.5 mile WNW and 0.3 mile N of the NW extremity of Tasso Island. Strong eddies occur off this extremity.

The dredged channel, after clearing the banks which extend W and WNW of Tasso Island, passes N of the island and leads to the loading piers situated off the SW end of Pepel Island.

Above Pepel, it is reported that a channel, used by small craft, extends 18 miles above Freetown to Fernando Po. This channel has a depth of 5m, but is restricted by sand banks.

Tides—Currents.—Tides at Pepel rise 3.1m at springs and 2.4m at neaps.

Depths—Limitations.—Milton Margai Pier has had a new dolphin mooring system installed in order to permit the handling of larger vessels. The berth has a depth of 13.7m alongside.

Generally, vessels up to 256m in length and 39m beam can be accommodated. Vessels up to 265m in length, 41.5m beam, and 22.3m molded depth may be accepted for docking after careful consideration by the authorities concerned. The ship-loader has a maximum boom height, when in the horizontal position, of 21.6m above chart datum. It also has a maximum outreach of 26.5m from the berthing line.

Due to the seasonal silting of the channel and intended annual dredging maintenance, the permissible sailing drafts for vessels remains entirely at the discretion of the harbor master at Pepel.

Pilotage.—Pilots are provided, free of charge, by the mining company at Pepel. Pilots embark and disembark at Freetown. It is reported that pilotage is not undertaken during the hours of darkness. For further information, see paragraph 11.41

Anchorage.—Anchorage can be obtained in the main channel between Tagrin Point and Robene Point, but the holding ground is not good and the tidal currents are strong.

The Sierra Leone River to the Banana Islands

11.44 The high mountainous range of the Sierra Leone peninsula, with peaks over 610m high, rises behind the coast between Cape Sierra Leone and Cape Shilling, 22 miles SSE. The S part of this range is the highest, and although the summits are generally clouded over, they can often be seen from as far as 45 miles seaward. Sugarloaf, previously described in paragraph 11.41, is the highest peak in the N part of this range. The most conspicuous peak, Mules Ears, rises to a height of 824m, 6 miles NE of Cape Shilling.

Depths of less than 11m lie, in places, as far as 4 miles off this stretch of coast. Landing can be made on many of the beaches along the shore except from May to October, when the surf is sometimes heavy.

Cockerill Bay, a slight indentation in the coast, lies immediately S of Cape Sierra Leone and is fronted by a sandy beach backed by trees. It terminates 4 miles S of the cape in a double rocky point formed by Goederich Point (Godrich Point), on the N side, and False Cape, on the S.

Whale Bay, a small bight, lies 6 miles N of Cape Shilling. York, a small town, is situated at its N end and has a good landing at the S side. Small wooded islets, 15m high to the tree tops, lie close SW and 1 mile NW of the town. A reef, with drying rocks, extends up to 1.3 miles SW from a point on the shore, 2 miles NNW of the town.

Maroon Islet, 30m high, lies close offshore, 2 miles N of Cape Shilling. A rock, which usually breaks, lies 0.5 mile offshore, about 2 miles N of this wooded islet.

Cape Shilling (8°05'N., 13°09'W.), 68m high, is covered with bushes; when seen from a distance of up to 15 miles, it has the appearance of a small island. The prominent village of Kent stands on a hill near this cape. Thistle Islet, 8m high to the treetops, lies 0.5 mile SW of the cape.

Caution.—Several submarine cables, mostly disused, extend seaward from the vicinity of Cockerill Bay and may best be seen on the chart.

The Banana Islands

11.45 The Banana Islands (8°07'N., 13°13'W.) are a group of three islands which extend between 2.5 and 7 miles SW of Cape Shilling.

These islands appear as a few sharp peaks and rounded bluffs separated by low land when seen from a distance of 10 miles. Although they lie near the African Continent, these islands have a comparatively healthy climate. Deep-draft vessels and vessels without local knowledge should pass to the W of the Banana Islands.

Dublin Island, the NE island, is the largest of the group and rises to a height of 173m at its SW end. A large conspicuous clump of cotton trees, 37m high, stands at its NE end.

Wolf Rock, awash, lies nearly 1 mile NE of the NE end of this island. Numerous shoals, with depths of less than 5m, lie in the passage which leads between Dublin Island and Thistle Islet, 2 miles NE.

Ricketts Island, the middle island, is volcanic and the highest of the group. Banana Peak, 252m high, stands near its center. This island is connected to Dublin Island by a narrow causeway.

Mes-Meheux Island, the SW island, is separated from Ricketts Island by a narrow boat passage. A main light (Meheux) is shown from a tower, 4m high, standing at a height of 31m near the SW end of this island.

A rock, awash, lies about 0.5 mile WSW of the light.

Tides—Currents.—Off the Banana Islands, the flood current sets E and the ebb current sets W. Both attain rates up to 1.5 knots.

The tidal currents set strongly through the passage between Dublin Island and Cape Shilling, and sometimes form tide rips.

Anchorage.—Vessels can anchor, in a depth of 11m, off the N side of Dublin Island. The best berth lies about 0.5 mile NW of the conspicuous clump of cotton trees. During the season of squalls, vessels can anchor, in a depth of 11m, about 1.3 miles NW of the conspicuous clump of cotton trees. Vessels at this berth would drift clear of danger if the cable parted.